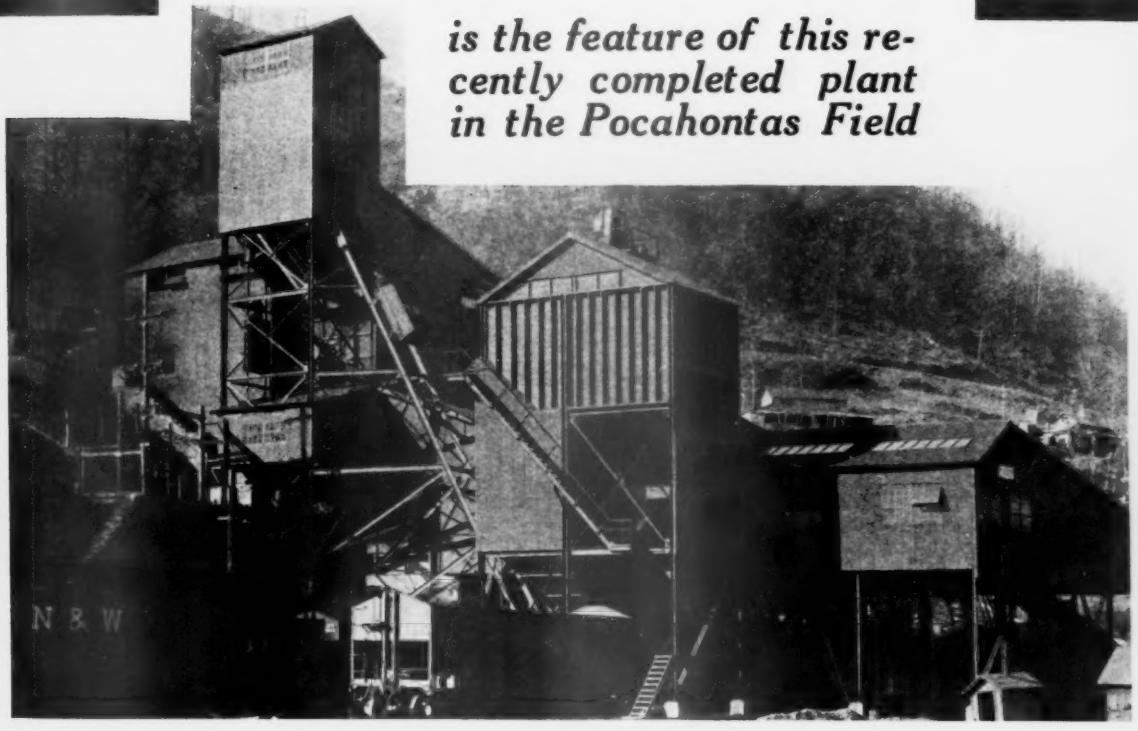
The MINING CONGRESS JOURNAL

Vol. 11 MARCH, 1925 *No.*3

UP-TO-DATE COAL PREPARATION

is the feature of this recently completed plant in the Pocahontas Field



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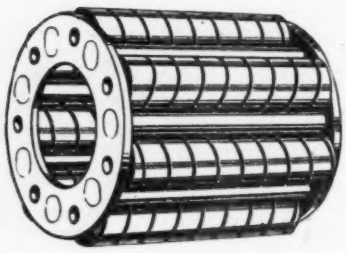

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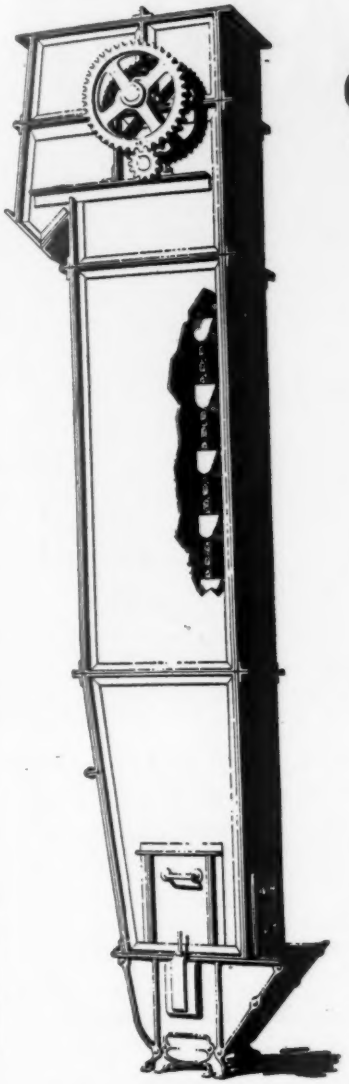

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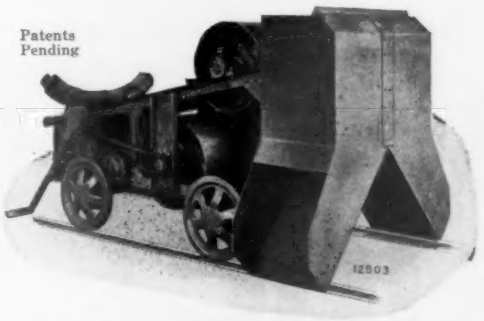

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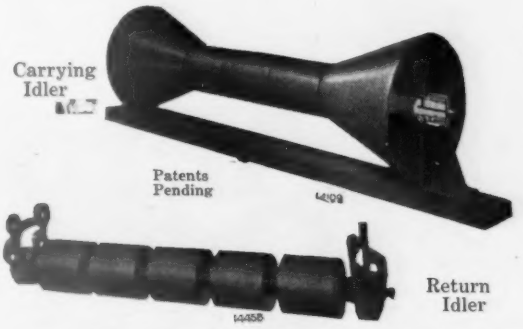

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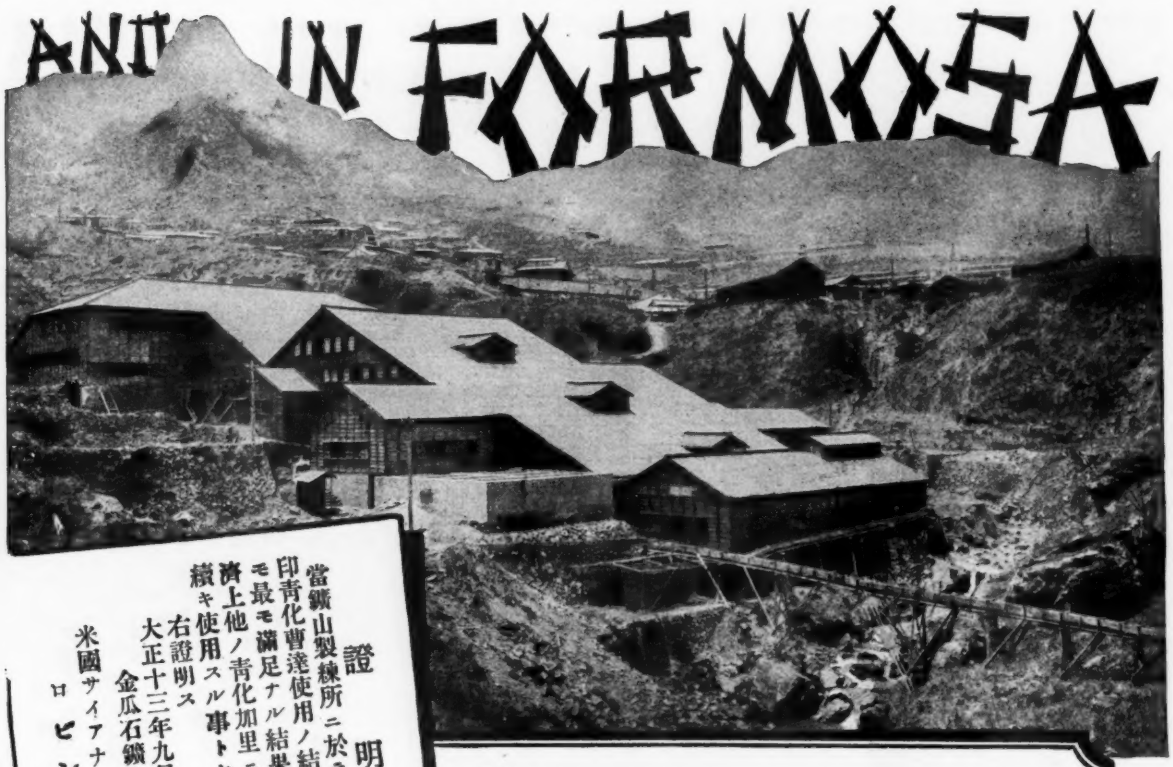

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右證明ス

大正十三年九月十日

金瓜石鑛山所長 田中清

米國サイアナマイド會社代表者

ロビンス殿

Translation

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THE MINING CONGRESS JOURNAL

MARCH, 1925

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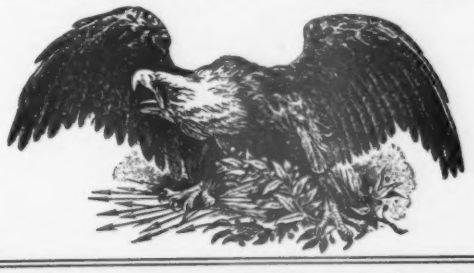

ERNEST H. PULLMAN
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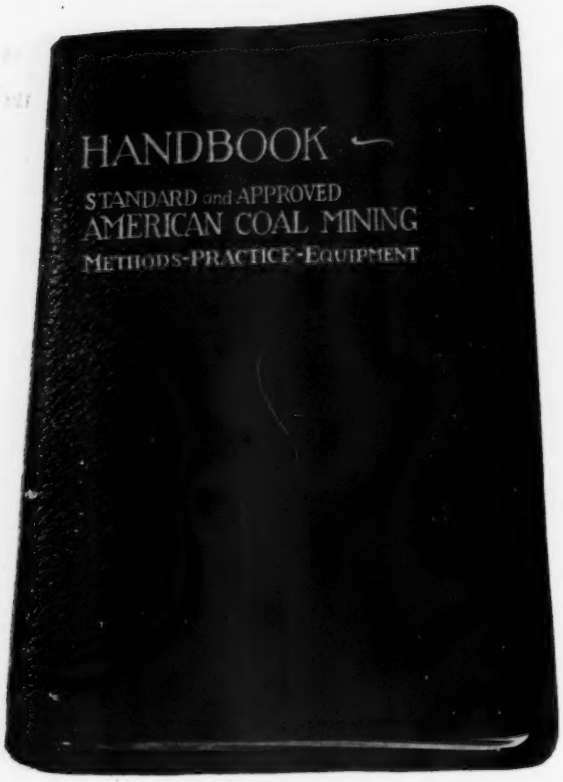

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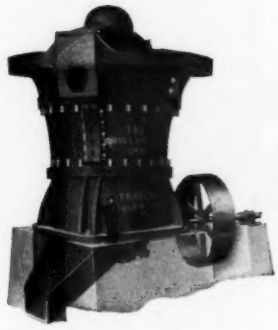

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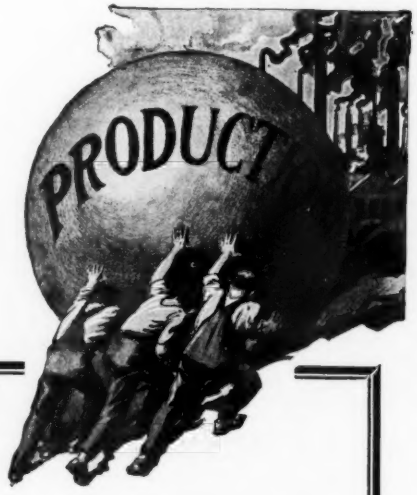

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A GOVERNMENT OPINION ON WEIGHTS

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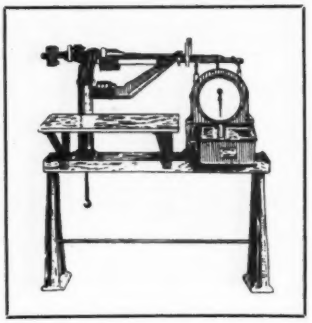

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The mighty train is soon reduced to uselessness without clear vision in the president's office. The same is true of the great mining industry. The machinery can function and the engineers direct to no avail if the plans of the operators and the government do not coordinate. Keeping the vision fresh, the design clear, and straightening out the pattern as the web grows stands the American Mining Congress.

Carrying this vision to those who must direct their business in the light of national events is the Mining Congress Journal. Every month it presents helpful editorials, current tax developments, tariff news, a digest of nation-wide expressed opinion on leading pertinent questions, a legislative review, inspiring accounts of labor problems solved, standardization articles, news and reviews with authoritative articles by leaders from the whole mining field.

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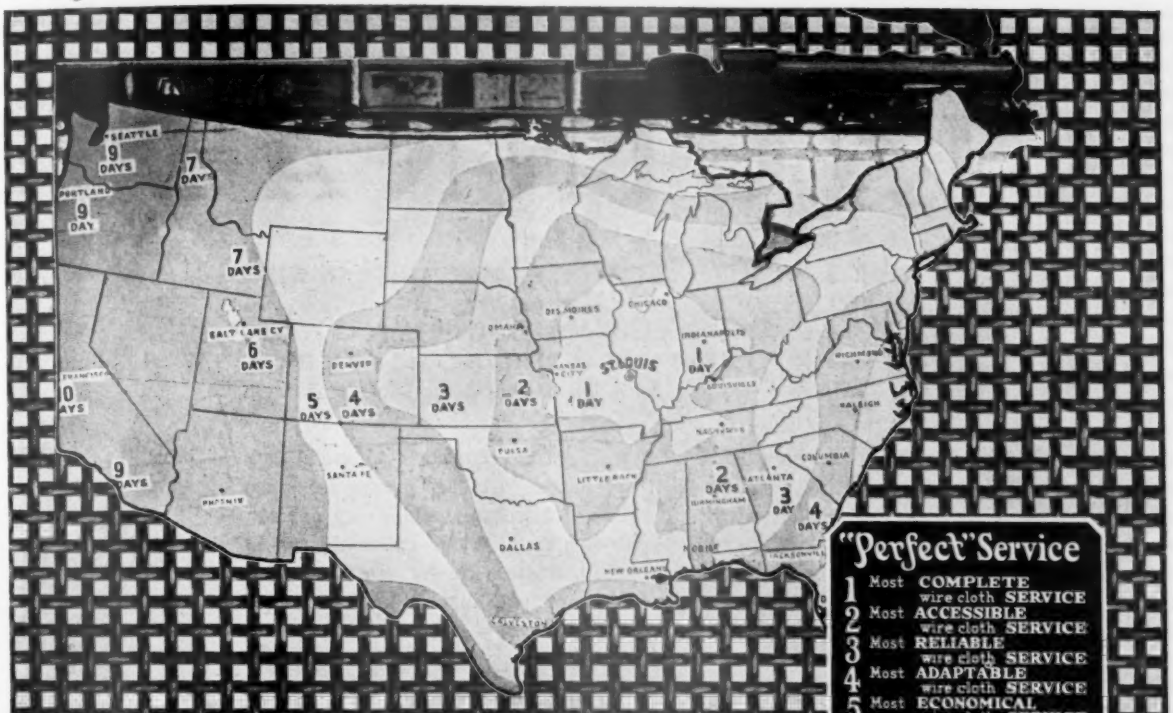

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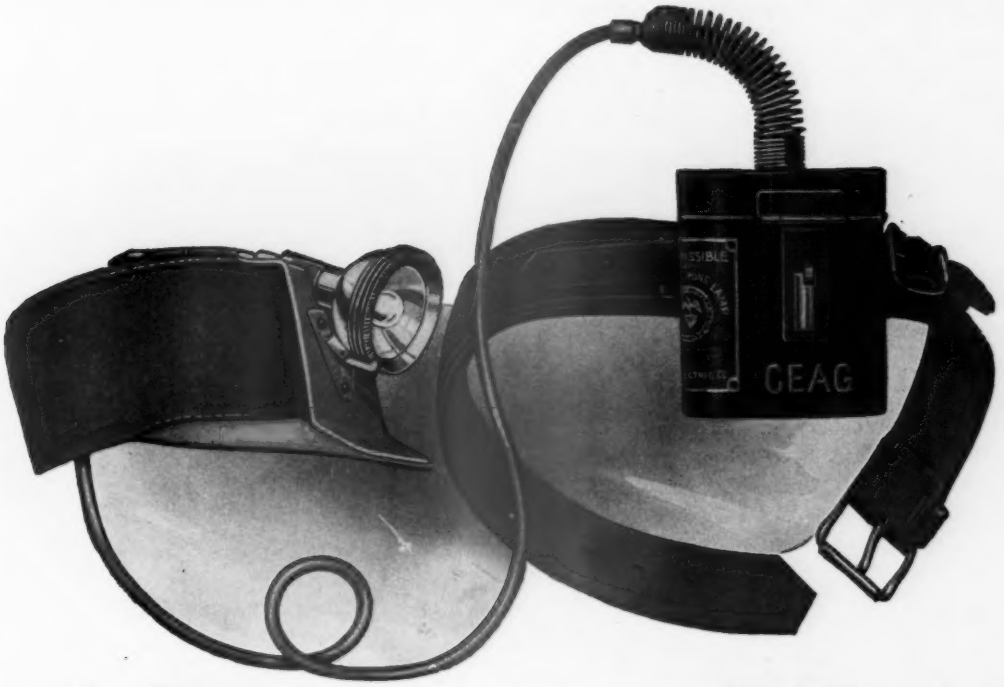

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The business of the American Mining Congress is to chart the currents and clear the channels for the industry, and to furnish expert guidance where this will not suffice. It serves in the issues big and small that confront all mining, and it serves the individual in his particular needs. Put your problems up to it.

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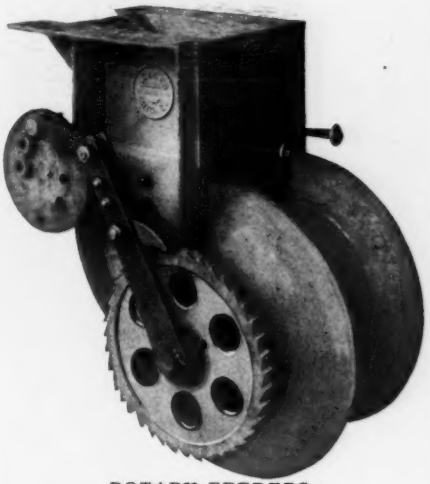

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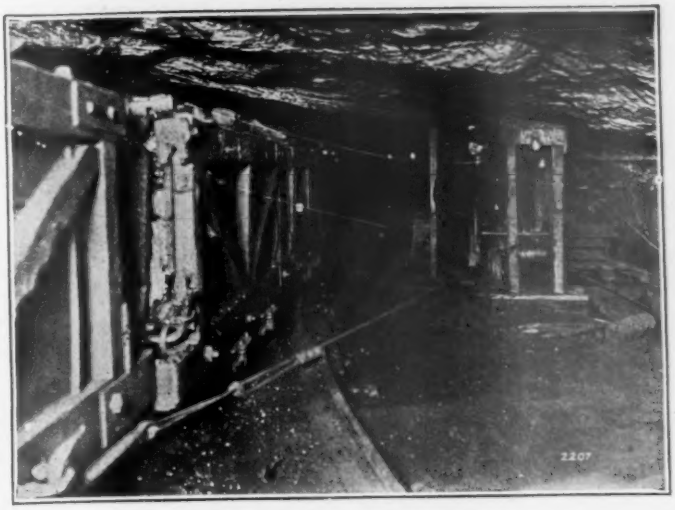

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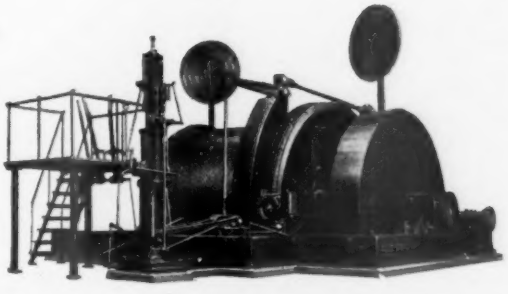

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THE BURDENS OF DEMOCRACY

IT is a fine, but necessary, distinction to say: In an autocracy the people are ruled; in a democracy they try to rule themselves; and in a republic they select those who temporarily are to rule for them. Most of the world has been ruled most of the time by either a mild or severe form of autocracy. The world has had the least experience with a pure democracy because no such government has ever been a success long enough for any of its supposed merits to prove themselves. The American Government started out to be and was, for a century, a real republic. Of late, it has drifted over strongly toward a democracy and seems to be on a long swing in that direction. Therefore, the sensible man will make his plans accordingly.

Of course, a republic is the easiest form of government to operate—easiest on the citizen. In a republic, it is not necessary to murder a king or to stage a revolution to overthrow his retainers when the people want to regain or defend a degree of freedom. It does not even involve a need to educate, sway and convince the whole mass on every trivial matter which may arise. Instead, in a republic, the people need only a will to be governed decently and a determination to retire anybody who proves indecent or a bad ruler. Thus the people under a republic can be misgoverned for one short term only; then they may have a change.

When we began to edge over toward democracy, our troubles, as a people, started. The retirement of men did not retire the subject which caused their fall. The subject itself remained alive. No question was settled until public opinion concerning it was fashion. And, since public opinion changes, no issue is ever settled in a democracy. And, few questions can be settled because of the difficulties incident to informing the public and keeping it informed. The persistent drive made against the coal industry in recent years affords an interesting example of the vast burdens which are imposed by even a leaning toward democracy.

The fact is that the people are not, naturally, interested in coal. There is nothing in it which naturally appeals to their fancy but much in it which repels them. For example, the human race takes inherently to a warm climate. It is naked when born; it remains naked throughout life. A bare skin naturally rebels against everything connected with cold weather. Heavy clothing hampers that movement which naked muscles revel in. And coal is inextricably connected with the cold weather which the race thoroughly dislikes. It is next to impossible to get a race, so constitutionally constructed, to study coal or to look with any warm favor on a proposition to assure a profit on such a distasteful commodity. The newspapers, quick to sense this popular distaste, are equally quick to further it. It is only with reluctance that they will print something about coal which is not scandalous. Those who want to "regulate" coal understand this mob psychology. They take full advantage of the fact they can get a ready ally in the newspaper and a ready audience with the public. So, baiting coal is a popular pastime.

A similar psychology works with almost equal force against the probability that the coal man will make a persistent presentation of his case to the public. The coal man's primary interest lies neither in the direction of politics nor publicity. He, instead, is interested primarily, in the money end of his business. But, he takes a peculiar delight in overcoming the difficulties which nature throws in his way; in the application of mechanics to his delicate operation; and in the marketing problems of such a voluminous commodity. The latter phases of the business are the most appealing because they supply the "game," the sporting proposition. These things carry him far afield from politics with its delicate intrigues bottomed on the savage hunt of man for "glory."

Not only is the coal man thus wholly out of sympathy with the other man's game of "politics" but his whole training makes it impossible for him to understand why he, a citizen, should have to fight his government to retain his independence. He was taught from infancy that this, in all the world, is a land of liberty. He believes it, thoroughly. He takes it for granted that liberty, when not abused, is inalienable where men once are free. And, he cannot understand why any group of public men should want to take the liberty of the citizen away from him. He can't understand what the public men would gain by doing such a thing. And, the coal man cannot understand why he should have always to spend time and money on the fight to retain a liberty which it will do the other man no good to take away. He even believes that such a need should not exist. And, by a syllogism, peculiarly his own, he comes to the conclusion that it does not exist. At any rate, he doesn't make the fight.

Therefore, as the national inclination swings toward democracy, the ambitious men assail the coal industry in the wide open press. And, the coal man goes blithely about his own affairs saying that all of this attacking will come to nothing; that the sober sense of the people will not allow it to happen.

And, at that point, we stumble upon the appalling burdens which democracy imposes. If the people are going to rule, they must know how to decide the coal question—and a thousand other questions—in the very short space allowed for discussion. But, the coal people are in no mood to inform the public. And yet, if the people are to reach an intelligent decision, they must first hear not only what is said about coal but what the coal man says for himself. As we get further over the hillside toward democracy, the burden incident to informing the public must grow heavier and heavier. Coal will have to carry the burden of its own defense —irksome as some may think it—or sink under the weight of abuse heaped by its ambitious enemies.

WHAT THE TAXPAYER GIVES

THE first long stride toward cooperative study and effort by the several States to evolve plans for the elimination of conflicts and duplications in the imposition and collection of taxes, was made when State and Federal tax officials met in Washington, February 19-20, for a conference on inheritance taxation. The first speaker at the conference, among a long list of notable speakers, was the President of the United States. His address made a profound impression because of his understanding of the tax situation generally, and his knowledge of the difficulties that prevail.

"Taxation," said President Coolidge, "is the means employed by a state to obtain the revenue with which to conduct its necessary operations. A state may be extravagant in the way it spends its revenue. So, too, extravagance may exist in the way it collects its revenue. I have often urged economy in outgo of revenue; it is equally as necessary that we establish economy in income of revenue. The burden of taxation is not what the state taxes, but what the taxpayer gives. * * *

"The burden of taxation is one from which relief must be found. It touches directly and indirectly all of our citizens. The most obvious field of economy is for the government to spend less. It is, however, equally desirable that the burden put by the government on its citizens be productive of government revenue and not destructive of the property of the taxpayer, for it is what the taxpayer gives rather than what the government ultimately spends, which measures the effect of the tax upon the citizen. We should, therefore, by a simplification of our method of taxation and the imposition of economically sound rates of taxation make certain that the government realizes more nearly the values which the citizen relinquishes."

Taxes must be productive of revenue and not destructive of the property of the taxpayer. This is an excellent thought for the taxing authorities, particularly in some of the mining states such as Arizona and Minnesota, to ponder upon. A burden of taxation that reduces the tax base of a state and retards the growth and development of its industries, is uneconomic and unsound even though for the time being there may be an apparent revenue yield of healthy proportions.

The President said that Government should seek to avoid living off the capital of the community. "If we are to adopt socialism, it should be presented to the people of this country as socialism, and not under the guise of a law to collect revenue. The people are quite able to determine for themselves the desirability of a particular public policy and do not ask to have such policies forced upon them by indirection. Personally, I do not feel that large fortunes properly managed are necessarily a menace to our institutions and therefore ought to be destroyed. On the contrary, they have been and can be of great value for our development."

Thus, the President opposes taxation measures designed primarily to confiscate the property of the "rich," to prevent the realization of compensatory profits on hazardous investments made by non-residents of the states in which the investments are placed, and to shift the burden of taxation from one class onto another for either social or political reasons.

In so far as the evils of double taxation are concerned, most of the considerations involved in the question of inheritance taxation apply with equal force to the taxation of intangible property. It is hoped that the deliberations of this and future conferences to be held by state taxing authorities will lead to the elimination of conflicts and duplications in state tax laws whereby several taxes may be levied and collected on the same identical property by different states. As stated by President Coolidge, such conferences and considerations tend to enlighten the public mind on these involved issues, and are of greatest value to the whole community.

THE REAL COAL ISSUE

SO many alleged issues have been raised in connection with coal that one naturally hesitates to mention another even though it be real. Nevertheless there is one fundamental distinction which has been overlooked as men make an effort to find a way out of the real and supposed ills of the coal industry.

In recent years, we have heard quite a lot—perhaps too much—about plans for coal's stabilization. As one reads the voluminous and highly imaginative literature of the subject, he is impressed that the outstanding desire seems to be to relieve the coal operator of some of his business worries and the miners of any worry as to whether they will find regular employment or even as to whether they are in the right line of business. As a sort of side light on the same question, one feels that the whole body of coal users must suddenly reform their buying practices to conform to a new and artificial system to be set up in the coal fields.

Even to glimpse the latter question brings into the picture an ignored phase of the coal subject. Still, it is common knowledge that out in the market, the multitude is governed by its fixed habits of buying. The people buy coal—as they buy everything else—on the spur of today's necessity. When doing things in that way, the people are governed by the supply of cash available at the minute. And, the contents of their cash box are subject to neither regulation nor stabilization. For that excellent reason, the buying habits of the people are not susceptible to stabilization. That being known and admitted, it becomes interesting to inquire: How can an industry be stabilized when its customers remain whimsical and changeable.

That unescapable fact brings into bold relief the two methods of procedure in coal—and the only two—which are open to choice. One of those methods, which is being advocated with the full strength of powerful lungs, is to take into account only the business difficulties of the operator and the miner; to remove them by creating a governmental contrivance; and, to exact of the whole public a quick and automatic readjustment of its buying habits to a congressional prescription.

The other method—one never hears it discussed—is first to learn and then to chart the natural course taken by the buying power of the people. This method takes it for granted—most wisely, by the way—that the fixed habits of the people cannot be changed. If they cannot be changed, then the operating time and other operating details—including financing—of the coal mines must be made to conform to what is known about the fixed buying habits of the people.

Thus one plan proposes to change the business and thereby to force a change on the customers of that business. The other plan proposes to recognize the impossibility of changing the public and then to conform the business to suit the known demands of the trade.

We venture the opinion that the man who believes he can force a change of habit or custom upon the people will destroy himself before he ever makes the slightest impression upon the imbedded routine of the public.

THOSE BASELESS RUMORS

THE Senate investigation of the Income Tax Unit will end June 1. In the meantime, the investigating committee will make a special effort to conduct the examination of the returns and records on file in the unit in such a manner as to interfere as little as possible with the work of closing cases and adjusting claims of taxpayers. If this policy had been followed by the committee and its employes from the beginning of the probe, it is possible that little, if any, opposition would have developed against either the committee or the investigation. It was because of alleged interference with the work of the unit that taxpayers, who have had business with the unit during the last year, have protested against the continuation of the committee.

While the question was in doubt as to whether the Senate would act favorably on the resolution introduced by Senator Couzens to extend the life of the committee beyond March 3, reports were being circulated that the principal opposition came from oil interests. These reports apparently were founded upon baseless rumors, as it does not appear that anyone representing the oil industry, or any other particular industry, has at any time protested against the investigation either to the Senate or to the Treasury Department. These reports, or rumors, therefore, are believed to have been inspired by advocates of the investigation who may have feared that unless an "oil scandal" could be manufactured, the Senate might vote against a continuation of the probe.

Stories had been circulated about individual taxpayers, officials of the Income Tax Unit, and the administrative organization generally. Charges had been made from time to time that favoritism had been shown in many cases, and that "influence" had played a part in the settlement of some claims. We believe an investigation was necessary in order to ascertain the truth or falsity of these charges. If fraud or corruption exists in government, the people who are the taxpayers, more than anyone else, want to know it. In this respect the investigating committee has performed a distinct service to the taxpayers and to the country, for the investigation has shown that there was no basis for such rumors, and this is a tremendous service to the people of this nation whose faith in the fundamentals of their government has been assailed during the last two years by many other rumors that have proven to be equally vicious and equally baseless.

The spreading of baseless rumors against an industry in order to bolster up a questionable case before the bar of public opinion is a vicious, reprehensible practice that ought to be amenable to the law. It is not believed that Senator Couzens has sanctioned any such methods of molding public opinion in order to gain support. It has been reported that threats were made to expose on the floor of the Senate alleged irregularities in certain cases. Perhaps there have been irrgularities. Mistakes may have been made. It would be surprising if perfect adjustments have been made in the millions of cases handled by the Income Tax Unit. Be that as it may, it is not believed that Senator Couzens personally has sanctioned methods that are demagogic and undemocratic in the conduct of the investigation or in the effort to have it continued.

Senator Couzens, although chairman of the committee, has been compelled to leave most of the details of the investigation to employes of the committee. According to creditable reports it has been impossible for him to assume personal supervision over the activities of the committee's investigators or to give personal attention to the methods that have been followed by these investigators in working with and securing information from the department. It is evident that these employes have, to the extent of their respective abilities, searched the files of the Income Tax Unit as with a fine-tooth comb for evidence of fraud or corruption. And, failing in that, to uncover mistakes that may have been in the audit and adjustment of some 40,000,000 returns, filed during the last seven years, including approximately 2,250,000 corporation tax returns.

But the thought is beginning to take root in the minds of many taxpayers that an effort has been made or is being made by some one or some group to make the committee a clearing house for scandal, instead of an agency for a constructive effort to improve the law and the administrative procedure without damaging taxpayers or industries in the process. Time will prove whether or not this thought is well founded in fact.

Senator Couzens is a business man of undoubted ability and resourceful energy. It is entirely proper for him to examine carefully into the financial structure and administrative organization of the nation. Undoubtedly, he entertains the hope that through the efforts of his committee beneficial changes will be wrought, and certainly he desires that his undertaking shall bring about constructive results not alone to the administrative organization but to taxpayers as well, not the least of whom by any means are the taxpayers of his own state. May the astute business judgment that made him the successful business man and efficient administrator now keep him from being misled by ill-considered advice and make him the discerning statesman, is the hope of this JOURNAL.

THE SIXTY-EIGHTH CONGRESS

THE 68th Congress will sing its swan song on March 4. It was perhaps the most criticized, ridiculed and publicly scorned body ever representative of a captious nation. But let's see who comprised this famous body: Lodge, Lenroot, Smoot, Longworth, Madden—and a large number of men of their calibre; men who for the most part have represented their constituents for many years; men who have won the nation's praise; men who have rendered conspicuous service to their country—and yours.

It is true that every Congress has its misfits, but it also is true that they do not long retain their places. Sometimes it happens that they can by certain combinations gain a temporary control that defeats constructive legislation, but their power is merely passing, not permanent.

Most members of Congress are fair-minded, and most of them have not only been members of the 68th Congress, but of the 67th, the 66th and 65th.

Recently a noted doctor made the statement that an individual's reply to the query of "how are you?" was indicative of his character. We sincerely hope that the carping attitude that has so universally obtained toward Congress is not indicative of our national tendencies.

The remedy for the situation is not a wholesale condemnation of Congress as a body, but of more intelligence at the poles, and the awakening of responsibility in the voter's mind. Until this is done there will continue to be misfits in our legislative bodies, both state and national, but so long as men of the type and character of the majority of the leaders in Congress hold the boat on an even keel, the old ship of state will continue to resist the waves kicked up by the misfits.

When you are inclined to criticize Congress as a whole, it is well to remember that the fault lies not with Congress, but with the folks who sent them there.

INVENTORY REGULATIONS AND THE INCOME TAX LAW

Inconsistent Rulings Of Internal Revenue Bureau In Relation To Inventories Impose Hardships On Metal-Mining Companies And Produce Discriminatory Results In Inventoring Undelivered Sold Production

By T. O. McGRATH *

DO the present regulations governing the taking of inventories meet the requirements of the Income Tax Law? Do the present inventory methods for normal goods specified by the regulations meet the requirements set forth in the regulations?

These two questions are of vital importance to most of the metal mines.

T. O. McGrath

Apparently the Treasury Department's regulations governing the valuation of normal goods are inconsistent and discriminatory and have placed a heavy burden on the mining industry, especially those mines that have made small, if any, profit on operations on the prices of metal since the war.

In order to bring out the inconsistency of the regulations that affect the mining industry, I will set forth the requirements of the law, the tests required by the regulations to be met in determining the valuation of normal goods, the customary methods of determining production by metal mines, and then show the inconsistency in the regulations.

REQUIREMENTS OF THE LAW

The requirements of the Law, Section 203, are two:

1. Inventories shall be taken as conforming as nearly as may be to the best accounting practice in the trade or business.
2. And as most clearly reflecting the income.

REQUIREMENTS OF THE REGULATIONS

The Regulations provide two tests to which each inventory must conform, which two tests are the same as the Law:

Article 1582 sets forth that inventory rules cannot be uniform but must give effect to trade customs which come within the scope of the best accounting practice in each particular trade or business.

It is further provided that to clearly reflect income the inventory practice of a taxpayer should be consistent from year to year, and that greater weight is to be given to consistency than to any particular method, so long as the method is substantially in accord with the regulations. That is, it is assumed, the method used must meet the two tests required, and not that it must conform to any of the methods outlined in the regulations.

As to the first test of conforming to the best accounting practice in the trade or business, this of course must be proven by the taxpayer.

As to the second test of clearly reflecting the income, the department lays down two rules:

1. The inventory must be consistent from year to year.
2. An inventory that can be used under the best accounting practice in a balance sheet showing the financial position of the taxpayer can be regarded as clearly reflecting his income.

INVENTORY METHODS FOR NORMAL GOODS

In Article 1582 the Regulations provide two methods of inventorying normal goods or production on hand, that is

1. Cost.
2. Cost or market, whichever is lower.

Either basis could be adopted for the year 1918 and thereafter cannot be changed unless permission is secured from the Commissioner.

Article No. 1581 of the present Regulations clearly sets forth that all goods on hand title to which is vested in the taxpayer, must be inventoried.

Article No. 1582 clearly specifies that all normal goods inventoried must be at cost or cost or market whichever is lower.

However, Article No. 1584 brings forth an exception and specifies that normal goods to be inventoried at market when lower than cost applies only to

1. Goods purchased and on hand.

2-a. Materials, labor, and burden in goods in process of manufacture.

2-b. And materials, labor and burden in finished goods or production on hand, provided

they have not been sold upon firm sales contracts.

If such goods have been sold upon firm sales contracts (those not legally subject to cancellation by either party) at fixed prices entered into before the date of the inventory then they must be inventoried at cost.

Therefore, according to the present regulations metal mines are required to inventory their production on hand at end of each year as follows:

1. Unsold finished production on hand, and unsold production in process at
   (a) Cost of production.
   (b) Cost or market whichever is lower.
2. Sold finished production on hand or sold production in process on firm sales contracts—cost only.

Little, if any, distinction has been made between mines and manufacturers, and any trade custom in mining that does not fit the above requirements in regard to normal goods has been ignored up to date.

Nothing is specified as to whether or not goods sold on contracts subject to cancellation can be inventoried at market when lower than cost, therefore, it is assumed that this can be done for all sold goods on hand if not to firm contracts.

Practically all production of metal mines, especially of copper mines, is sold on firm fixed sales contracts, therefore the copper producers must inventory all undelivered sold production at cost, even if the sales were at prices below cost.

Before illustrating how this works out and whether or not it is according to the requirements of the Income Tax Law, it is necessary first to show what is the usual custom followed in determining the production of metal mines.

PRODUCTION OF METAL MINES

There is shown as "Table No. 1" how the production of each class of metal mines is determined. The production of metal mines is not a simple uniform practice as is usually the case in manufacturing.

The production of Class "A" mines is determined as of the date of sampling by the smelter and is the assay contents of the ore, less treatment losses. There is no doubt about this being the production, not because it is the usual practice, but because payment is made for no more or less metal or metals than is given by the settlement assay less the treatment losses, and the prices are those prevailing on the date of sampling. I do not know of any instance where the Revenue Department has refused Class "A" mines so to determine their production.

The production of Class "B" mines is determined, also, as of the date of samp-

* Of Bisbee, Ariz.; Member, General Tax Committee, American Mining Congress; Address delivered at the Conference on Mine Taxation, 27th Annual Convention of the American Mining Congress, Sacramento, California, September 30, 1924.

TABLE No. 1.—*Production of Metal Mines*

Class	A	B	C	D	E
Description:	Mines that produce ore or concentrates the commercial contents of which (less treatment losses) are sold to custom smelters.	Mines that produce ore or concentrates which are delivered to smelters for warrants on refineries for the metallic contents (less treatment losses).	Mines that produce from their ores or concentrates a bullion which is sold to refineries or metal buyers according to the assay content.	Mines that produce from their ores or concentrates a bullion which is delivered to refineries for refinery certificates for refined metals.	Mines that produce from their ores and concentrates a bullion and from the bullion refined metals.
Production is determined as of:	The date each lot is sampled at the smelter.	The date each lot is sampled at the smelter.	The date of sampling of each lot of bullion at the refinery or by the metal buyers.	The date of sampling each lot of bullion at the refinery.	The daily production of the refinery.
Production is paid for:	In money, according to the price of metals as of the date of sampling.	In warrants on a refinery for the assay contents (less treatment losses) as of date of sampling.	In money according to the prices of metals on the date sampled, or as the metals are sold.	In refinery certificates for the assay contents as of the sampling, less treatment losses.	By delivery of refined metal.
The production is:	The assay contents (less treatment losses) of the ore or concentrates paid for as of the date of sampling.	The assay contents (less treatment losses) of the ores or concentrates the date of sampling as specified by the warrants.	The assay contents of the bullion as of the date of sampling, less treatment losses.	The assay contents of the bullion (less treatment losses) on date of sampling, less the date of sampling as specified on the refinery certificates.	The production of the refinery.

ling by the smelter, and the production is the assay contents of the ore or concentrates, less treatment losses. There is no doubt in this case about such being the production, not because it is the usual practice, but because the amount of metal or metals is determined at that time, because there is given in lieu of the ore or concentrates a warrant on the refinery for a certain amount of metal, which warrant is usually a negotiable instrument, and can be sold as if it were the same amount of metal.

Also, that this is the finished production is evidenced by the delivery, coincident with the negotiable evidence of production, of bills for the processing of the product which are either paid or accrued to the credit of the smelter.

Therefore, not only is the quantity of the finished production known as of a certain date, but the finished and complete cost of the production is obtained at the same time.

For the same reason, the production of mines in either Class "C" or "D" is the assay content of the bullion on the date sampled at the refinery or by the metal buyers, and the production of Class "E" mines is the daily or monthly production of the refinery.

However, it has been the practice of a number of mines of Class "C" and "D" to determine their production as of the date and according to the assay contents of the bullion when sampled at the smelter for shipment to the refinery.

With this exception in mines of Class "C" and "D," the production of the mines of each class is, and has been generally determined as above stated and is so recognized by the Revenue Department in the inventorying of unsold production. However, the Department has not always so recognized the production in the matter of undelivered sold metal.

TABLE No. 2—*Year* 1916

	Cents
Average price year	28.46
Average price last quarter	31.90
Cost per pound	12.00

	According to Records and Regs. No. 33 & 45	According to Regs. No. 45 Revised and Regs. No. 62
Class A Company "X"		
Sold 24,000,000 lbs. @ 28.46c	$6,830,400	
Cost 24,000,000 lbs. @ 12.00c	2,880,000	As shown
Net income	$3,950,400	$3,950,400
Class B Company "Y"		
Sold 18,000,000 lbs. @ 27.313c	$4,916,400	$4,916,400
Sold 6,000,000 lbs. @ 31.900c	1,914,000	*720,000 at cost
24,000,000 lbs. @ 28.46c	$6,830,400	$5,636,400
Cost 24,000,000 lbs. @ 12.00c	2,880,000	2,880,000
Net income	$3,950,400	†$2,756,400

* Value of undelivered sold copper shown at 62.4 percent below its actual value in the profit and loss account and on the balance sheet.
† Income shown as $1,194,000 less than actual.

INVENTORYING UNDELIVERED SOLD PRODUCTION

The inconsistency and unfairness of inventorying undelivered sold production at cost, instead of at the sales price, can be best shown with some simple illustrations.

We will take two mining companies, "X" and "Y," both producing at the rate of 2,000,000 pounds of copper per month for the year 1916, and both having a total production cost of 12 cents per pound. Company "X" belonging to Class "A" and sold all of its production to the smelter at 28.46 cents per pound, the average price of electrolytic copper in 1916. Company "Y" belonging to Class "B" sold all of its production as evidenced by smelter warrants on the refinery for the same average price for the year except that the production for the last quarter of 1916 was sold to customers for delivery in the first quarter of 1917, all sales being made on firm sales contracts at fixed prices.

According to Regulations No. 33, 1916

Law, Article No. 127, especially paragraph 423, governing the income tax laws of 1916 and 1917, both Company "X" and Company "Y" were justified in following their usual procedure of reporting their net income as shown by Table No. 2, column one.

This is further substantiated by Regulations No. 45, relating to the 1918 act, Articles 1581 and 1584.

However, under Regulations No. 45, 1920 Edition, while Article No. 1581 specifies, "The inventory should include merchandise sold but not shipped to the customer at the date of the inventory, together with any merchandise out upon consignment, *but if such goods have been included in the sales of the taxable year they should not be taken in the inventory*" the same as previously, there was added to Article 1584 after the sentence, "exclusive, however, of goods on hand or in process of manufacture for delivery upon firm sales contracts at fixed prices entered into before the date of the inventory," the words "*which goods must be inventoried at cost.*"

It was at this time then that the Revenue Department laid down the rule that inventorying at market applied only to unsold normal goods on hand or in process and to sold goods on hand which were subject to cancellation, but that goods on hand sold on firm sales contracts not subject to cancellation must be carried at cost instead of at sales price, as was allowed under prior regulations.

This was a peculiar ruling and gives very peculiar results.

While Company "X," Table No. 2, could report its income as shown on its books, Company "Y" would have to report its income as shown in column No. 2, which carries the undelivered sold copper at cost.

Therefore, the result in normal taxes would be as follows:

For "X," year 1916, normal tax	$79,008	
For "Y," years 1916-1917, normal tax	$126,768	
Total normal tax to "Y" in excess of "X"		$47,760
To which would be added the 1917 war tax for that part of 1916 income reported in 1917.		

There could be no evening up for "Y" mines in 1917 as the average price of copper in the last quarter of 1916 was 31.90c and for the last quarter of 1917 was 23.50c.

While this ruling was discriminatory for the year 1916 it worked even a greater hardship for mines in "B," "C" and "D" classes in the year 1917 as shown by the increased tax rates for years 1916 to 1918 inclusive.

TABLE No. 3.—*Year* 1921

	Cents
Average price year	12.65
Average price last quarter	13.19
Average price December 31	13.562
Cost per pound	15.00

	According to records	As required by regulations
Class A Company "X"		
Sold 24,000,000 lbs. @ 12.65c	$3,036,000	
Cost 24,000,000 lbs. @ 15.00c	3,600,000	As shown
Loss for year 1921	$564,000	$564,000
Class B Company "Y"		
Sold 18,000,000 lbs. @ 12.47c	$2,244,600	$2,244,600
Sold 6,000,000 lbs. @ 13.19c	791,400	*900,000 at cost
	$3,036,000	$3,144,600
Cost 24,000,000 lbs. @ 15.00c	3,600,000	3,600,000
Loss for year 1921	$564,000	†$455,400
Class B Company "Z"		
Sold 18,000,000 lbs. @ 12.47c	$2,244,600	As shown
Unsold at Market 6,000,000 lbs. @ 13.562c	813,720	
	$3,058,320	
Cost 24,000,000 lbs. @ 15.00c	$3,600,000	
Loss for year 1921	$542,320	$542,320

* Value of undelivered sold copper shown at 13.72 percent above its actual value in the profit and loss account and on the balance sheet.
† Loss shown as $108,600 less than actual.

Year	Normal Rate	Excess Tax Above Credits
1916	2%	
1917	6%	20 to 60%
1918	12%	30 to 80%

However, while the result of inventorying undelivered sold copper at cost gave very unpleasant results to most of the metal mines during the years of rising metal prices and tax rates, the results in later years on low metal prices and high costs is really more interesting.

For instance, an illustration for the year 1921 is shown by table No. 3.

We had a rising market in 1921 from August to the end of the year. We will again take Companies "X" and "Y" and add Company "Z," each producing at the rate of 2,000,000 pounds per month, each, however, having a cost of 15c which was considered a good cost for that year.

What happened is shown by Table No. 3.

Here, instead of showing the asset of undelivered sold copper for "Y" mines at less than half its value, as was required in the year 1916, the undelivered sold copper is shown at 13.72 percent more

TABLE No. 4.—*Year* 1923

	Cents
Average price	14.61
December 31	12.65
Last quarter	12.893

	According to records	As required by regulations
Class A Company "X"		
Sold 24,000,000 lbs. @ 14.61c	$3,506,400	
Cost 24,000,000 lbs. @ 14.00c	3,360,000	As shown
Net income	$146,400	$146,400
Class B Company "Y"		
Sold 18,000,000 lbs. @ 15.182c	$2,732,820	$2,732,820
Sold 6,000,000 lbs. @ 12.893c	773,580	*840,000 at cost
24,000,000 lbs. @ 14.61c	$3,506,400	$3,572,820
Cost 24,000,000 lbs. @ 14.00c	3,360,000	3,360,000
Cost 24,000,000 lbs. @ 14.00c	3,360,000	3,360,000
Net income	$146,400	†$212,820
Class B Company "Z"		
Sold 18,000,000 lbs. @ 15.182c	$2,732,820	
Unsold at Market 6,000,000lbs. @ 12.65c	759,000	As shown
	$3,491,820	
Cost 24,000,000 lbs. @ 14.00c	3,360,000	
Net income	$131,820	$131,820

* Value of undelivered sold copper shown at 8.59 percent above its actual value in the profit and loss account and on the balance sheet.
† Income shown as $66,420 more than actual on which to pay taxes.

TABLE 5

Year	Table No.	Company	Value of the Metal At sales price	At cost	Asset shown on balance sheet Above actual	Below actual
1916	2	Y	$1,914,000	$720,000		$1,194,000
1921	3	Y	791,400	900,000	$108,600	
1923	4	Y	773,580	840,000	66,420	

TABLE 6

Year	Table	Company	Income At sales price	At cost	Loss At sales price	At cost
1916	2	Y	$3,950,400	$2,756,400		
1921	3	Y			$564,000	$456,000
1923	4	Y	146,400	212,820		

than its actual value (more even than its market value) and the loss is shown as $107,400.00 less than the actual loss. Mines in the "Z" class that had unsold copper on hand at less than cost were allowed to show the loss for the year according to market price at end of year regardless of the fact that no known loss had been accrued. However, "Y" mines which had a fixed known loss were required to show a fictitious loss much less than the actual.

Still another illustration even more interesting is Table No. 4 for the year 1923.

Here, by inventorying the unsold metal at cost instead of at market, the asset of undelivered sold copper will be carried on the balance sheet at a value about 8½ percent more than actual and the income for the year is shown nearly half again more than actual, requiring an income tax to be paid on income that did not and never would exist.

All of these illustrations are on actual market prices of copper, and as copper for delivery in the first quarter of each year is usually sold in the last quarter of the succeeding year, the last quarter's production, if sold, is usually undelivered.

CONCLUSION

It is necessary first to clearly outline the established custom of determining finished production for each class of metal mines, especially non-ferrous, base metal mines, before it can be shown what is the best accounting and cost practice in the metal mining business. There has been considerable confusion in this, some being of the opinion that there is no established practice. However, when the mines are classed into the different groups according to method of production, as shown by Table No. 1, it is seen that there has been and is a correct method and established practice for each class or group.

The problem is: How shall undelivered sold production be inventoried so as to reflect the true income?

By reference to the tables it is seen that the inventorying of undelivered sold production at cost reflects such assets on the balance sheet either below or above their true value as shown in Table 5.

I do not believe there is any question which of the above inventory figures would be the best accounting practice for a balance sheet and which figures would be used by a banker in arriving at the true net assets.

As a result of inventorying at cost the income or the loss is shown either as less or as more than the true income or true loss as shown in Table 6.

I do not believe there is any question which one of the above inventory methods is the one that most clearly reflects the income.

I have not touched upon the inconsistency of refusing to allow the use of a known fixed quantity such as firm sales to measure profit and loss and the granting of the use of an uncertain measure such as market price on a certain date as shown by Table No. 4, Companies "Y" and "Z."

This is so evident that it does not need discussion to support it.

Certainly, the Revenue Department cannot contend that the present regulations requiring the inventorying of undelivered sold goods on hand and in process at cost instead of at sales price most clearly reflects the income or conforms to the best accounting practice in the metal mining business, when such a method results in showing the assets on the balance sheet at a value greater than actual and more than market and gives a fictitious income to mislead stockholders and the county and state tax officials, and on which it must pay income taxes.

If greater weight is to be given to consistency surely such a method should not supplant any method which had been used consistently from year to year in a trade or business.

There can be no doubt that to inventory undelivered production sold on firm contracts at the sales price is the only method that will give the true income and will show the true financial position of the taxpayer.

DECREASE IN PRODUCTION OF SULPHUR IN 1924

THE production of sulphur in the United States in 1924 dropped to 1,220,600 long tons from 2,036,097 long tons in 1923, a decrease of 40 percent, according to the figures compiled in the Geological Survey. The shipments also decreased, dropping from 1,618,841 long tons in 1923 to 1,537,400 long tons in 1924, a loss, however, of only 5 percent. The shipments in 1924 were thus the second largest on record and for the first time since 1920 were greater than the production. The estimated value of the shipments in 1924 was $25,000,000, compared with $26,000,000 in 1923, at approximately the same rate per ton.

The producers' stocks in hand at the end of 1923 were approximately 3,000,000 tons. The stocks were depleted during the year by the surplus of shipments over production and at the end of the year were approximately 2,700,000 tons. Stocks are still so large as to make improbable any material increase in the rate of production. About 300,000 tons (10 percent) of the stocks in hand at the end of 1923 was shipped in 1924.

The exports of sulphur, or brimstone, from the United States in 1924, according to the Bureau of Foreign and Domestic Commerce, were 481,814 long tons, valued at $7,786,254. The exports of refined and sublimed sulphur and of flowers of sulphur in 1924 were 2,329 long tons, valued at $107,947, making the total exports of crude and refined sulphur during the year 484,143 tons, valued at $7,894,201, compared with 474,475 tons, valued at $7,216,107, in 1923.

The production of sulphur in Sicily, which averaged about 350,000 metric tons before the World War, dropped considerably during and after the war, owing largely to the increase in competition for European markets of sulphur mined in Texas and Louisiana. The exports from the United States increased from 89,221 long tons in 1913 to 487,969 long tons in 1922, and 1924 they were 484,143 long tons. The agreement between the American producers and the Sicilian Sulphur Consortium in 1923, proportioning sulphur among the markets of the world, has probably benefited the Sicilian producers, as the production in Sicily increased from 137,648 metric tons in 1922 to 206,238 metric tons in 1923, and amounted to 115,045 metric tons during the first six months of 1924, a rate of about 230,000 metric tons for the year.

PRACTICAL OPERATING PROBLEMS TO BE DISCUSSED AT CINCINNATI

Discussions Held Simultaneously With National Exposition Coal Mining Equipment And Machinery Of The American Mining Congress—W. L. Affelder, Hillman Coal & Coke Co., Heads Representative Program Committee Of Operating Officials

By E. C. PORTER*

THE discussions of practical operating problems and the National Exposition of Coal Mining Equipment and Machinery held in Cincinnati in May, 1924, resulted in the largest and most notable meeting in the history of the coal mining industry. The success of this meeting furnished evidence of the constructive value to the industry of an annual meeting of practical operating officials to exchange ideas in regard to the effective solution of operating problems in order to secure lower costs per ton. With the endorsement of various coal associations and mining institutes, it has therefore been decided to duplicate last year's effort, the meeting to again be held in Cincinnati May 25 to 29, 1925, under the auspices of the American Mining Congress.

"Cutting costs in coal operations," will be the slogan of the meeting and all of the sessions, both morning and afternoon, during the four days—May 26, 27, 28 and 29—will be devoted exclusively to a consideration of the practical operating problems in the coal mining industry.

This meeting at Cincinnati will be essentially an operator's meeting. Its primary purpose is to bring out the best thought of the industry in regard to the effective solution of the problems of securing lower costs through the effective handling of mechanical equipment. In order to secure this result, a very representative program has been formed covering the important coal mining districts. The personnel of this committee, of which W. L. Affelder, assistant to the president of the Hillman Coal & Coke Co., Pittsburgh, Pa., is chairman, is in itself the best evidence of the fact that the program at Cincinnati this year will bring out in an effective way the problems of vital interest to coal mining men.

THE PROGRAM COMMITTEE

The program committee as selected includes: R. L. Kingsland, Superintendent Power and Mechanical Department, Consolidation Coal Co., Fairmont, W. Va.; Lee Long, General Manager, Clinchfield Coal Corporation, Dante, Va.; Abner Lunsford, General Manager, Fordson Coal Co., Stone, Ky.; E. L. Thrower, General Manager, Warner Collieries Co., Cleveland, O.; C. M. Means, Consulting Engineer, Pittsburgh, Pa.; W. G. Duncan, Jr., General Superintendent, W. G. Duncan Coal Co., Greenville, Ky.; George F. Osler, Vice-President and General Manager, Pittsburgh Terminal Coal Co., Pittsburgh, Pa.; H. Foster Bain, Director, U. S. Bureau of Mines, Washington, D. C.; J. E. Layne, Jr., Secretary, Eaton-Rhodes Co., Cincinnati, O.; James W. Needham, General Manager, St. Paul Coal Co., Chicago, Ill.; Graham Bright, Consulting Engineer, Howard N. Eavenson and Associates, Pittsburgh, Pa.; A. C. Callan, Department of Mines, University of Illinois; C. E. Lesher, Assistant to President, Pittsburgh Coal Co., Pittsburgh, Pa.; Phil H. Penna, Secretary, Indiana Bituminous Coal Operators' Association, Terre Haute, Ind.; and W. A. Bishop, Electrical Engineer, Pocahontas Fuel Co., Inc., Pocahontas, Va.

The program committee has decided that the general arrangement of last year's program was effective and has, in the development of this year's program, emphasized the importance of the informal discussions at the meeting. There will be no set speeches or long papers. Representative men who have had the most experience in different fields in solving the problems suggested by the topics will lead the discussions, presenting their point of view, which will be followed by a general discussion. The tentative program as worked out by the program committee will feature the following four main subjects:

1. Progress in mechanical and electrical equipment during the year.
2. Automatic control of mine equipment.
3. Mechanical loading in all of its phases.
4. Effective cutting and shooting methods to secure greater realization.

There also will be an informal discussion of effective practice and actual cost of rock dusting.

DISCUSSIONS OF MECHANICAL LOADING DEVELOPMENT TO BE FEATURED

The program committee has felt that mechanical loading in its various phases is a topic of greatest interest to the coal industry at the present time. During the year past there has been marked progress in the development of mechanical loading and in the utilization of new types of loading machines. Every operating official in the coal mining industry is interested in the development and is anxious to know of the success which has been made by some companies through the use of loading machines as well as to learn of the limitations which still apply to the use of the machines. Two full days, Wednesday, May 27, and Thursday, May 28, will be devoted to a discussion of the different aspects of mechanical loading. During the past year an exhaustive investigation has been carried on by a representative of the Bureau of Mines in Pittsburgh, Pa., of all of the different types of loading machines which have been used in coal production. One of the representatives engaged in this work will introduce the subject of "Underground Loaders of Today." This introductory discussion will consist essentially of a description of the different types of machines which will be illustrated with lantern slides and giving to all in attendance at the Cincinnati meeting, a resumé of the developments which have taken place.

Following this introduction there will be a general discussion led by the men who have had the largest experience in the practical application of mechanical loading in the different districts. This general topic for discussion will be, "Practical Experience in the Use of Mechanical Loaders." This discussion will give a complete resumé of both the successful adaptation of loading machines in varying conditions and the limitations which have been met in their use.

On Thursday, May 28, the discussion of the different aspects of mechanical loading will continue. The general topic will be, "Mutual Adaptation of Mining Methods and Loading Machines." This discussion will bring out various facts in regard to the adaptation of mining methods in order to secure the fullest benefits from the use of mechanical loaders. The sub-topics to be discussed will include the adaptation of mining methods and loading machines in connection with thick and thin coal under varying roof conditions. In this discussion special reference will be made to the use of mechanical loaders under conditions of draw slate and with extra thick coal and at the conclusion of this meeting there will be a discussion of some successful adaptations by men who have

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Music Hall, Cincinnati

effectively adapted mining systems to meet the conditions required by some types of mechanical loaders.

The Thursday afternoon session will be given up to a discussion of, "Utilization of Face or Portable Conveyors," and will include a presentation of the use of face or portable conveyors without loading and with loading machines and will cover the very important aspects of the recent developments along these lines in the different mining districts.

The Use Of Graphic Charts In Coal Mines Accounting

Thursday evening there will be an informal dinner and evening conference devoted to a discussion of, "The Advantages of the Use of Graphic Charts in Coal Mine Accounting." W. L. Affelder, assistant to the president of the Hillman Coal & Coke Co., has done some interesting work in connection with charting cost figures and establishing a system of graphic charts which furnish an easy and efficient method of operation. There will be also additional discussion along these lines.

Automatic Control Of Mine Equipment To Be Featured Also

Another problem of special interest to the operating officials is the question of the automatic control of mine equipment. No phase of the development of electrical equipment in coal mines is of greater importance than this. The tendency during the last ten years has been to steadily increase the percentage of day laborers in coal mines. This has had a great effect upon mine costs. The electrification of mines and the development of automatic control of mine equipment is a development which will be of the greatest value in cutting costs in coal mining enterprises. There will, therefore, be a very special discussion of the application of control to different types of mine equipment. Preceding this discussion there will be a presentation of some of the important facts relative to each development in mechanical and electrical equipment in coal mining enterprises.

Methods For Securing Greater Realization To Be Discussed

The lowering of costs per ton is one phase of the general problems of coal mine production. An equally important aspect is the development of methods which will obtain a greater realization for the coal sold. At the Cincinnati meeting, therefore, the Friday morning session on May 29 will be devoted to a discussion of, "Effective Cutting and Shooting Methods to Secure Greater Realization." This will include a presentation of effective methods in connection with horizontal cuts in top, bottom and middle, the shearing of coal, the snubbing of coal, proper shooting of coal and this discussion will be followed by consideration of some of the methods which can be utilized in tipple preparations. The operating officials who have had the most experience and the greatest success in the application, methods and practice for these various subjects will present their viewpoint which will, of course, be followed by a general discussion.

Actual Costs And Practice Of Rock Dusting To Be Discussed

It seems to be generally agreed that rock dusting is helpful in coal practice. It is also equally agreed that rock dusting is not in itself a panacea preventing all possibilities of dangerous explosions. Both the advantages and limitations of rock dusting will be considered and presented at the Cincinnati meeting. The emphasis in the discussion will be placed upon a summary by different speakers of the actual costs in rock dusting and the limitations of rock dusting from a safety standpoint. Here again a considerable amount of successful experimentation has been done during the past year in securing actual results under varying conditions with rock dusting. The Western states, particularly Utah, where rock dusting has been made a legal necessity, will be well represented in this program.

Exposition Of Mine Machinery And Equipment To Be A Feature

In addition to the very comprehensive program which is now being worked out by the representative program committee there will be a splendid display of the latest types of mine equipment and mine machinery at the National Exposition of Coal Mine Equipment which will be staged simultaneously with the discussion. Both the exposition and the conference sessions will be held in the Music Hall Exposition Building in Cincinnati. It is anticipated that there will be in the neighborhood of 150 displays of coal mine equipment and machinery and it is hoped that there will be a number of different types of loading machines shown in operation. The combination of the practical discussions of operating problems and the opportunity for the inspection of equipment and machinery makes (*Continued on page* 117)

THE NAVAL OIL SHALE RESERVES

The Future Petroleum Supply And Its Bearing Upon Our Future Security Are Becoming More Pressing Each Day—The Navy Is Greatly Interested In The Development Of Our Oil Shale Industry, And Admiral Rousseau Very Forcefully Presents Its Reasons Therefor

By Rear Admiral H. H. Rousseau*

THE industrial life of a nation is dependent, at various periods of its existence and in various ways, upon its two arms of defense—the Army and the Navy—and both the industrial and military resources and power of a nation have come to be vitally dependent upon petroleum—as fuel oil, as gasoline and as lubricating oil. Now petroleum, in common with our other mineral resources, is a wasting resource and there is no one of us but who earnestly hopes and confidently expects that our great nation will continue to flourish long after our last oil well goes dry; for with a present production of two million barrels a day from wells in the United States, and with present information regarding our remaining petroleum resources, no one is so optimistic as to believe that we will be able to supply all of our needs with petroleum for even such a comparatively short period as twenty-five years. Of course, there will be the oil fields in foreign lands to supply the world's needs for a greater or less period to come, for other countries have not been so prodigal in the use of their petroleum resources as we have; but such foreign oil, unless we control it—and we control very little of it at present, and are making very little progress towards controlling more of it—will be available with certainty only in time of peace when commerce with oil-producing countries is unrestricted; and if war should unavoidably intervene under those conditions, what will it avail us to have a well trained army and an adequate navy unless we can supply them with the petroleum they must have in order to win their battles and protect our nation? Under those circumstances, without petroleum, all the millions we spend on our army and navy, as a premium on the nation's safety insurance policy, will have been for naught. Important peace time industries may cease to function in time of war if their petroleum supply is cut off, with only temporary detriment to the nation; but in any national conflict unless our military forces function with the greatest possible efficiency through the aid of an ample supply of petroleum, the nation's independent existence will be jeopardized if not terminated.

It was the consideration of factors like these for our future safety that led to the executive order by President Taft in September, 1912, withdrawing from "settlement, location, sale or entry" the land comprising the three reserves that are known as Naval Petroleum Reserves Nos. 1 and 2 in California, and No. 2 in Wyoming, to be "held for the exclusive use or benefit of the United States Navy until this order is revoked by the President or by act of Congress." In February, 1923, Naval Petroleum Reserve No. 4 was established in northern Alaska. It is now being explored by the U. S. Geological Survey. Its value is not known. The purpose of the Navy Department was well expressed in an authoritative statement printed in 1916, from which the following is quoted: "The Navy Department does not desire to produce oil from the naval petroleum reserves at the present time, and does not want the oil converted into money at any time. It does want the oil conserved underground where it may be stored without cost and free from loss by fire or evaporation until the decreased production and increased market render its production and use desirable. This was the purpose of creating these reserves, and it is still the desire of the Department to utilize these deposits as a reserve to be depended upon when an adequate supply of fuel oil is not available at a reasonable cost." The only reasons therefore leading to the withdrawal of these oil lands from entry by, and sale to, private citizens, and for reserving them for future development and use by the Navy were considerations of public interest and national safety in which every individual citizen has equal responsibility and concern; and there was no thought or design at the time that the oil in these reserves should be brought to the surface for storage or use prior to the time when petroleum could not be readily obtainable by the Navy from any other source. It was not the purpose to establish these reserves to supply the Navy's present day needs—even to supply such present day war time needs as might arise. These petroleum reserves are comparatively moderate in capacity and extent. The combined area of the Government land in Reserves Nos. 1, 2 and 3 is barely 52,000 acres and their estimated recoverable oil, when established, was no more than the present production in the United States for about four months. That is a very moderate contribution indeed to our future safety. The value of these reserves has been lessened, as regards the future, by the drilling that has been done in and adjacent to them. As a result they are now losing their oil at the rate of over a million barrels per month. Within the last three years these three reserves have been the subject of much discussion, investigation, and litigation. As one of the receivers, under the Court, of the portion of Naval Petroleum Reserve No. 1 that is in litigation, it obviously would be improper for me to touch upon the issues now pending, that will be argued in Court at an early date.

President Coolidge considers the subject of our future petroleum supply so important from the standpoint of national security that he recently appointed a commission consisting of Dr. Geo. Otis Smith, Director of the U. S. Geological Survey, Admiral H. P, Jones, president of the General Board of the Navy, and Mr. R. D. Bush, California State Oil and Gas Supervisor, to study the question and formulate a policy that will aid in conserving our petroleum resources. This Commission's report is expected to be submitted at an early date. From the situation as thus reviewed and from the Navy standpoint, the time seems to be very propitious for giving careful and thorough consideration to oil shale, which, by common consent, appears to be hailed as the logical and most suitable successor to petroleum, when the latter's sun has set, in industry and in all requirements for the national defense, including the Navy, Army, war industries and sea borne transport. This brings into consideration all of our vast oil shale deposits in the Rocky Mountain region and elsewhere, and how and when they can and should be developed and used. The subject has been an interesting and important one to the Navy ever since serious attention was first directed, less than fifteen years ago, to the immense quantities of these shales in Colorado, Utah, and Wyoming that form the largest and richest deposits in the world. Foreseeing their future value, and as a measure of preparedness for the approaching day of a petroleum shortage, in 1913 the Geological Survey began an extensive examination and mapping of these oil shale areas. And in December, 1916, President Wilson by executive order established two Naval Oil Shale Reserves for the same purpose the Naval Petroleum Reserves had been

* United States Navy.

established four years previously. Reserve No. 1 is located in western Colorado on the line of the Denver and Rio Grande Western Railroad, north of the Grand River between Grand Valley and Rifle. Its boundaries contain 45,444 acres. Some of the land consists of patented mineral entries. The area remaining under Navy control is 39,844 acres. Naval Oil Shale Reserve No. 2 is in Utah and is located along and to the east of the Green River and about 50 miles north of Elgin, on the Denver and Rio Grande Western Railroad. The land under Navy control within its boundaries has an area of 86,584 acres. These areas are believed to include some of the richest and most desirable shale deposits in this region and are well situated for development. The reserves were located and their boundaries were fixed by the United States Geological Survey. Dean E. Winchester did a large part of the field work. He is the author of the well-known Bulletin No. 729 of the Geological Survey entitled "Oil Shale of the Rocky Mountain Region." In this Bulletin Mr. Winchester estimates the quantity of shale oil recoverable from the oil shales of Colorado, Utah and Wyoming to be as follows:

	Barrels
Colorado	40,640,000,000
Utah (based on 40% recovery)	13,166,000,000
Wyoming	1,537,000,000
Total	55,343,000,000

In his pioneer book "The Oil Shale Industry," published four years ago, Dr. Victor C. Alderson estimated the quantity of shale oil recoverable from the Colorado and Utah deposits to be ninety-eight billion barrels. There have also been much larger estimates. Whatever the amount, that more detailed surveys may show to exist, there is an almost inconceivable quantity of shale oil confined in these deposits, and as Dr. Alderson truly remarks in his book, "The successful retorting of oil from shale and the establishment of the oil shale industry on a permanent and profitable basis is the great problem of this decade." Mr. Winchester states that, when his report was written, the Naval Oil Shale Reserves comprised only about 3 percent of the Government land then open to lease as oil shale lands in accordance with the Act of Congress of February 25, 1920. The reserves therefore do not comprise more than about 2 percent of the total area of the oil shale land of the Rocky Mountain region. Based upon present information and upon conservative assumptions, it seems to be certain that there is sufficient oil shale in these naval reserves to produce several billion barrels of shale oil. Not only do the naval oil shale reserves contain many times as much oil as the naval petroleum reserves, but the oil, existing in an unmanufactured state in the shale as kerogen, is in much more suitable form for preservation in the ground for future use than is crude petroleum. In fact oil shale makes the ideal reserve from which to obtain fuel oil, gasoline, and lubricating oil. It is free from losses resulting from drainage, evaporation, fire, entrance of water, deterioration, or damage from enemy attack, and these reserves provide a potential supply of oil for the Navy sufficient for many decades.

It is important to remember that our information and opinions to date regarding the value and possibilities of our oil

Rear Admiral H. H. Rousseau

shales have been derived almost entirely from laboratory and small scale experiments. This applies to the work of the U. S. Bureau of Mines which started its investigation of methods of extraction in 1917, about the same time as the Colorado School of Mines commenced its research and cooperative work for the advancement of the industry. There has been little or no mining, retorting, and refining on a commercial scale in this country, and our pioneer commercial plants have been far from successful to date, as is only natural to expect in a new industry like this. A somewhat notable exception is the well-known Catlin Shale Products Co. plant at Elko, Nev., for the production principally of lubricating oil and paraffin products. The M. J. Trumble Oil Shale Cycle Distillation Process has recently been received with marked favor and in the opinion of Dr. Alderson bids "fair to mark a new era in the distillation not only of oil shale but of coal and other hydrocarbons." Until, however, there has been sufficient preliminary and research work to determine beyond doubt the methods of mining, retorting, and refining that will be commercially successful in treating our oil shales; and until the output of shale oil and its products attains a volume that is commensurate with that of the petroleum industry, it must be forcibly impressed upon the press and the public alike that all of our oil shale deposits have a potential or speculative value only and are of no more actual and practical value today for relieving an emergency, should it suddenly arise, than if they did not exist. And as they stand today, and until the industry is developed, in so far as they may convey a sense of false security against the day of the impending petroleum shortage, our oil shales really constitute a menace against our national safety. Under the best of conditions, it will probably require several years—perhaps five or more—to discover, try out, and perfect satisfactory mining and manufacturing processes; and after that the construction of commercial plants on a large scale, and manning and operating them with skilled workmen, in order to build up the output to a substantial volume will easily require 10 years, and perhaps double that time. Under the spur of great necessity, concentrated intensive work could reduce this time, but it can be easily seen that the situation from the standpoint of time is serious and one that cannot be remedied over night. The fact must be looked squarely in the face, that if shale oil is going to be produced at a rate equal to, or greater than, the reduction in petroleum production that cannot be deferred much longer, there has got to be prompt and vigorous action and cooperation upon the part of every agency, public and private.

Now the general policy of the Navy in regard to the utilization of its oil shale reserves will undoubtedly be similar to its policy as to its petroleum reserves, and will be based on the fact that these oil shale reserves were not established for present-day use or for the purpose of reducing through their current use the annual cost of maintenance of the Navy; but the time for putting any such policy into effect will not arrive until the extraction of shale oil on a commercial scale and the establishment of the industry on a strong basis have become accomplished facts. Meanwhile the Navy has such a vital interest in building up the commercial production of shale oil as quickly as possible that it desires to cooperate with and assist in a practical manner those who have been courageously struggling with the difficult problem of putting this potentially enormous and important industry on its feet. The Navy is interested also in doing some work of a preliminary character on its reserves that will give more detailed and accurate information as to the quan-

tity and character of its oil shales, and how they should be treated to get the best results. You may desire to know just what assistance the Government can render. Work in connection with oil shales on the reserves requires a special appropriation from Congress as the current appropriations of the Navy are not available for this purpose. Moreover, the Bureau of Mines of the Department of the Interior, among its other duties, is "charged with the improvement of methods in the production of petroleum and natural gas, and other inquiries and technological investigations pertinent to such industries." The Bureau of Mines, therefore, carries on all government technical investigations and laboratory experiments relating to the mining of oil shale, and the production and refining of shale oil, the results of which are open to everyone.

The President's Commission on Oil Reserves has announced itself as being strongly of the opinion that shale oil is so essential to the future life of our nation that experiments should be undertaken by the Government at once, on a commercial scale, to assist the development of adequate production, and that any plant of this character should be established at a point convenient for testing the shales of Naval Oil Shale Reserve No. 1. And it was for the purpose of constructing this experimental plant, including an investigation of mining methods and sampling the oil shales of the naval reserves, that a special appropriation of $90,000 under the Bureau of Mines was requested at the last session of Congress. And though it failed of passage, owing to the congestion occurring during the last days of the session, it is hoped that this appropriation will be secured at the next session, and that it will be the forerunner of regular and liberal appropriations that will enable the most rapid progress possible to be made in this very important work.

Not long ago, in compliance with orders of the Navy Department, I visited Naval Oil Shale Reserve No. 1 and had an opportunity to become acquainted with the oil shales of Colorado and with some of those who are connected with the industry. I afterwards visited the U. S. Bureau of Mines laboratory at Boulder and the Colorado School of Mines laboratory at Golden and observed the important and interesting experiments underway. No work has been done at the Naval Oil Shale Reserve No. 1 as yet other than to take some samples of outcroppings and to test them. No core drilling, that is so necessary for a thorough testing, has yet been undertaken on account of the lack of funds. A spirit of great interest, optimism, and even enthusiasm was everywhere in evidence, in the field and in the laboratory. But with it all, there was a decided undercurrent of feeling that the progress being made is not at all satisfactory or what it might be, and that the Government should be prompt in extending more liberal aid to the industry in view of the national interest involved. For several years past the U. S. Bureau of Mines has concentrated its experimental oil shale work at the University of Colorado laboratory at Boulder, the entire cost being equally divided between the Bureau of Mines and the State of Colorado. The Government's share of the expense has been only about $8,000 per annum—a sum which appears to be entirely disproportionate to the magnitude of the task and the urgency to complete it.

The foregoing is intended to represent the present situation from the Navy viewpoint, and if there is any aid that can be properly extended by the Navy to assist in establishing the shale oil industry, I am sure that any suggestions that may be made along that line will receive the careful consideration of the Navy Department. My contact with oil shales has not been extensive in point of time, but within that short period I have acquired some of the prevailing optimism and firmly believe that by adherence to sound business principles in organizing the shale oil industry, by inculcating a spirit of cooperation, by proper publicity, and education of the public in the basic matters pertaining to the industry, by avoiding the unnecessary duplication of effort and expense in all experimental work, by the adoption of standard methods and processes and standard specifications for shale oil products, by sound financing and an appreciation of the minimum size of plant that can be financially successful, and above all, by hard, persistent work, the shale oil industry will come into its own in our industrial world.

PROSPECTING ON STOCK-RAISING HOMESTEADS

In taking up the matter of unwarranted interference with prospecting for minerals on stock-raising homesteads and leases, the American Mining Congress has engaged in a campaign that means much to the future development of the western metal-mining industry. At first it was difficult to obtain information upon which to act. Prospectors are not letter-writers as a rule, and their complaints reached the organization through round-about channels. It was necessary to piece together bits of information received from a variety of sources in order to determine what the conditions were, and what course should be pursued. The action of the American Mining Congress has the endorsement of the western metal-mining industry, as is shown by the following resolution of the Executive Committee of the Department of Mines and Mining of the Sacramento Chamber of Commerce:

> WHEREAS, the American Mining Congress has taken a determined stand to have removed the restrictions at present imposed on prospecting by the existing Stock-raising Homestead Act and the act authorizing leases for stock-raising purposes in forest services, as the investigations of that organization reveal the nonmineral claimants to public lands have prevented legitimate prospecting and development of promising mining locations by threats, force, and gunplay, and in some cases demanded tribute for granting the privilege of prospecting, notwithstanding that the minerals are reserved to the government; and
>
> WHEREAS, the American Mining Congress contends that the rights of prospectors are paramount to the rights of the surface leases and that reservation of minerals in the abovementioned acts implies the right to prospect without interference by homesteaders on grazing lands, and point out that the land office officials admit that prospecting and mineral claimants do not have the same rights to prospect and explore the public domain that existed prior to the passage of the aforesaid acts; and
>
> WHEREAS, the prospecting and development of vast mineralized areas in California is at present prevented by the restrictions exercised under the aforesaid acts, and the time has arrived that the interests of the prospectors must be properly safeguarded; therefore be it
>
> *Resolved*, That the Executive Committee of the Department of Mines and Mining of the Sacramento Chamber of Commerce does hereby heartily endorse and commend the American Mining Congress in its campaign to have removed the existing restrictions on prospecting and mineral development in the lands of the public domain and does further assure the said American Mining Congress of its fullest support and assistance in any way possible.
>
> Adopted Monday, January 12, 1925.

The fifth edition of the Geological Survey bulletin entitled "Data of Geochemistry," has recently been printed by the government press. Dr. F. W. Clarke is the author of this bulletin, No. 770, which since 1908, when it was first published, has been a standard reference work the world over. It covers 765 pages, divided into 12 chapters, and has an index of 55 pages.

GRASS VALLEY SECTION AMERICAN MINING CONGRESS ORGANIZED

E. G. Reinert, Western Representative, Organizes First District Chapter Of The American Mining Congress, Which Includes Nevada, Placer, Sierra and Yuba Counties In California—Leading Mining Men Of Grass Valley And Nevada City Mining Districts Take Active And Enthusiastic Part In Establishment.

SIXTY-SEVEN charter members organized the first district chapter of the American Mining Congress in California on February 5. The organization meeting was held at the Empire Club House of the Empire Mine at Grass Valley, and was attended by leading representative mining men of the state. F. W. Nobs, assistant manager of the Empire Mines, was elected Governor, and it is planned to hold monthly meetings for discussion of local problems.

Robert Bedford was elected first vice-governor; Morris Roche, second vice-governor; W. H. Martin, third vice-governor, and H. L. Englebright, secretary and treasurer.

To serve on the board of directors the following were selected: Chairman, Arthur B. Foote, Morris A. Roche, F. M. Nilon, A. R. Archibald, John Mulroy, Sidney B. Wood, Roy J. King, B. A. Penhall, W. H. Martin, J. A. Curnow, F. Sommer Schmidt, F. W. Gormley, G. J. Rector and George W. Starr. A legislative committee was appointed and consists of F. M. Nilon, Robert Bedford and C. E. Clinch.

Bert F. Hews, manager of the Sacramento Chamber of Commerce, Department of Mines and Mining, who was present last night stated that the formation of a chapter here would be an excellent aid to the four counties involved and that the community should feel honored at having the first chapter on the Pacific Coast.

Robert I. Kerr, secretary and treasurer of California Metals and Minerals Production, of San Francisco, was also in attendance, as was James D. Stewart and F. A. Morse, of Auburn, who represented Placer County.

In presenting the object of the American Mining Congress in forming this chapter, Mr. E. G. Reinert, Western representative of the organization, said:

"They tell us that the mining men of Golden California do not know what they want. That sentiment offered in a broad and constructive sense may perhaps be partially true, but it is evident here tonight, that from this time forward, at least the mining men of Grass Valley—Nevada City region and its tributary districts—are hereafter to be numbered apart from any such demoralizing tendencies.

"This gathering is in no sense to be interpreted a partisan political movement. You are here to consider the business of mining. Its friends should be your political policy! then, with a very substantial balance of power in this state, you would secure for mining the legislative consideration the industry deserves. You have no quarrels with other essential industries; except, perhaps, with agriculture and real estate, for they are not the sole beneficiaries of California sunshine. By the grace of a fine climate you conduct mining operations 365 days in the year.

"There can be no question as to mining opportunities throughout this region. They are practically limitless in number, rich as anywhere in Mexico and free from the hazards of unstable government. The lure of distant fields should get no response here.

"An active, healthy, harmonious discussion of your mutual interests and problems will prove profitable, interesting, instructive and entertaining.

"It may be pure presumption upon my part to refer briefly to some of these matters that may with profit be given your attention and action. I will ask your indulgence long enough to touch upon a few of them, based upon my observations.

"Discussion of mining and milling methods will make for the economics necessary to offset high costs of material and the comparatively low price of gold.

"Taxation is a common problem to the industry throughout the state and nation. It demands attention and united action.

"Your voice should be heard in the conflict of interest between irrigation districts and the mines. To force mining properties into such districts where they have nothing in common except for purposes of assessment, is essentially taxation without representation.

"In some degree many free milling gold districts are infested with that old-time pest, the high grader. He deserves your unremitting attention. This infection must be removed by a fight in the open and those who aid and abet this malicious practice should be dealt with as common criminals along with the offenders. Your policy should be to 'Hew to the line and let the chips fall where they may.'

"Where the high grader thrives, there the 'knocker' is also in evidence to maliciously hinder financial cooperation required in aggressive mine development. He has not learned to talk mining in place of personalities. He creates suspicion against the entire community. Your active influence will do much toward eliminating his vicious operations born of antiquated salesmanship methods.

"You are rightfully opposed to the mining shark and the shining mark—the fake operator and ignorant investor. You wish to stimulate the legitimate pursuit of mining by the fair shake instead of the fake share. It will be well to express yourselves upon this point by permitting your light

Club House of the Empire Mine, Grass Valley, California

to shine upon the intelligent investor who is willing to count the cost. He will readily realize that mining requires a high order of business ability and that financial profit from mining is not only as good but better than results from any other occupation, where mining enterprise is directed by good business judgment and technical ability.

"The shoe-stringer, so called, is about all we have left of the old-time prospector. He deserves your cooperation insofar as he is willing to make it clear to the investor that he is doing exploration work upon a scale to determine possibilities rather than overstating the true situation. He is one of the best bets in the community if he is not stringing the public. It is his lot to help make mines—every mine was once a prospect.

"I look hopefully toward the work of this chapter from many angles not here enumerated, important among which will be the opportunity, under organization, to feel the pulse of the active mining men of this region upon matters affecting their concern in state and national matters, an improved tone more favorable to mining on the part of the public and an increasingly higher morale among the mining men themselves. All of which will permeate the atmosphere for the good of all.

"It may be desirable at the outset to direct your attention briefly to the purpose and activities of the American Mining Congress as a national organization.

"The American Mining Congress is the economic and legislative force—relatively the dynamo—turning the legitimate needs of the entire business and field of mining into actual realization by the route of education through cooperation.

"The American Mining Congress functions—and has functioned for twenty-seven years—as a general clearing house for consideration of the problems and the presentation of the facts in regard to the natural resources industry as a whole. It believes that each phase of the industry should be represented by its own national organization, realizing that such organization can alone provide certain types of service essential for the welfare of those different groups. It has, therefore, always given its cordial support to all national and state organizations.

"It has been shown through its relationships with the various phases of the natural resources industries that there is a distinct advantage at many times in coordinating the interest of these different groups and in presenting the facts in regard to these industries, not from the standpoint of advocating the interests of a single group, but from the viewpoint of the basic needs of the natural resources industries as a whole in their relation to the commercial and industrial needs of the country. Thus the strategic advantage of its position has made its work effective, affording the primary reason for the cordial cooperation it has and is receiving on every hand.

"The objects of the American Mining Congress are briefly set forth from its by-laws, as follows:

" 'This corporation is formed for the purpose of advancing the mining and metallurgical industries, in all their various branches, within the United States; to assist in bringing about a more perfect cooperation between the Government of the United States and the development of mining and metallurgy; to encourage education in practical and scientific mining and metallurgy and the dissemination of scientific information in relation to mining and metallurgy and their allied industries; to acquire and disseminate trustworthy information bearing upon the development of the metallic and nonmetallic mining resources of the United States; to promote a more cooperative tendency in the evolution of agriculture, mining, manufacturing, transportation and commerce; and for the particular purpose of bringing the mining men of the United States into closer relation with one another, and of promoting a friendly feeling for one another through social intercourse and the discussion of mutual interests.'

"I would call your attention to the words 'particular purpose,' 'closer relation,' and 'friendly feeling,' the requisite elements for harmonious action.

"The workings of the Congress briefly outlined, permit no activity affecting a division of the industry to be taken up without first placing the matter before the interests concerned. The Washington office acts first as an informant, and then as an agent to carry out the legitimate requirements of the industry. It secures, wherever possible, collective action from groups of producers and states. It places required and convincing unbiased evidence before the Federal Congress. It fills the gap between official and private information and meets and checkmates incorrect statements from biased sources. It does not 'lobby' for or against legislation. Its work is accomplished by education.

"The state divisions of the American Mining Congress are known as chapters and may embrace districts or local sections. The state bodies although constitutionally a part of the national work are self-governed bodies, acting independently upon local matters. State and national bodies act in unison when required.

"Officers of a chapter are designed as governors, with first, second and third vice-governors, a secretary, a treasurer and a board of directors consisting of as many members as may be deemed advisable. Usually twelve to fifteen in number—the committees to be determined by the requirements of your actions, with the usual standing committees on finance and executive matters."

A general discussion of the problems of the district then took place, and Mr. Reinert read a letter from Mr. Charles G. Johnson, state treasurer of California, which in part said:

"I want to express my satisfaction over your organization coming into being as an active institution in California for the protection and promotion of the parent industry of the state. I speak hereof from that experience which came out of my activities with the gold rush of Nome, prospecting through Mexico, mining in Rawhide and financing mining in California up to the present time.

"The apparent lack of confidence in mining is not due to the depletion of paying ore bodies or the exhaustion of our natural mineral resources, but rather the result of a continued effort on the part of the government and financial institutions; the former by burdening the industry by volumes of regulatory statutes and delegation of powers to commissions and institutions to further regulate, and the latter by pointing with discouragement to the hazards attending mining investments.

"The wealth of gold produced in California was unattended by both statutes and regulatory commissions. It is since these institutions came into being that the mining industry has suffered.

"The present mineral wealth of California is vast—beyond the power of imagination and only awaits development.

"It calls for pioneer work—it calls for the energy of men inspired by the romance of mining—it calls for the class of labor which knows no weariness from effort; fortified by an all enduring hope for eventual success. Immigration to California of this type of labor should have the earnest concern of your organization.

"The mining wealth of our state should be heralded eastward of the Rockies, as the inspiration and development must come from new places, untouched by the destroying forces which have wrought havoc with the industry in California. A confidence in mining is just below the surface. If the mining men themselves, in organization, will remove this crust by practical activity, California again will reflect by its spirit of industry, the confidence which made gold king in this state for so many years."

ELEVENTH ANNUAL MEETING COLORADO CHAPTER, AMERICAN MINING CONGRESS AND COLORADO METAL MINING ASS'N

ONE of the outstanding events of the eleventh annual meeting of the Colorado Metal Mining Association and the Colorado Chapter of the American Mining Congress was the action taken to change the title of the association so as to include the oil men in the organization. Oil has become such a prominent factor in the mining industry of Colorado as to take its place definitely by the side of the production of coal and minerals. The association therefore voted to change its name from the Colorado Metal Mining Association to the Colorado Mining Association.

More than 600 miners and mining men attended the convention and took part in the now famous annual "sow-belly" dinner. In commenting upon this dinner, the Denver Press stated:

"The old West, the West of bright remembrances and of storied history, was revived and a prop put under it.

"Days of the prospector who braved dangers the very mentioning of which would make the present day tenderfoot quail, were recalled in anecdote and song.

"For 600 miners, whooping, cheering, applauding and stamping, recalled the 'good old days' when the industry was in its infancy in Colorado, and pointed to the revival of mining and the prosperous outlook for the future at their annual 'sow-belly dinner.'

"The old prospector was there to join hands with the 'liquid gold' miner of the present, for the oil men of the Colorado chapter of the Rocky Mountain Oil Producers' Association formally were admitted to the metal mining association. The occasion was the signal for a special stunt and it required reams of speech by John T. Barnett, representing the oil men, and a practical demonstration that there was oil in the 'chuck room' to convince Toastmaster Oliver H. Shoup that the oil men should be admitted.

"Barnett was sure he could strike oil on the special platform erected for spectators. To prove it he called his drilling crew, Russell Lloyd, H. J. Kessler, H. A. Aurand, S. R. Cohagen, F. S. Prout and T. F. Newman on the platform to back him up.

"After the geologist had decided on a location, a 'doodle bug' changed the site and the tool pusher finally selected the correct place to strike oil. A rig was erected and in five minutes a well was gushing black gold.

"'It is a pleasure to admit a bunch like this among an organization of honest men, and I warn every miner to hold on to his pocketbook,' ex-Governor Shoup declared.

"'Denver is moving and will keep moving,' Mayor Stapleton told the miners and oil men. 'Citizens of this city will play a part in the mining game and help boost it.'

"Members were urged to leave the dinner imbued with the spirit of construction by State Senator William Renshaw. He invited all the mining and oil men to visit Idaho Springs February 2, for the celebration which the Chamber of Commerce is planning in that town.

"'The renewed interest in mining is shown by the large attendance here tonight,' ex-Governor Jesse McDonald declared. Ex-Governor Gunter was introduced.

"The School of Mines' band, attired in mining togs, marched to the scene of the dinner preceding the meeting. They entertained during the program.

"Governor Clarence J. Morley, guest of honor, was unable, on account of illness, to attend the dinner, which was given under the auspices of the mining association and the bureau of mines of the Denver Chamber of Commerce."

In presenting his annual report, M. B. Tomblin, Secretary of the Association, told those present that Colorado spent more money in 1924 to develop its mineral resources than in any other year in the state's existence and that 1925 will probably witness an even greater expenditure in the search for minerals. Mr. Tomblin further said:

"Railroad transportation and adverse state legislation are the most serious problems confronting miners of the state. Because so large a percentage of mining operations in Colorado are situated on branch lines of railroads, and in view of recent decisions of the interstate commerce commission that railroads cannot be forced to operate branch lines which show constantly increasing losses, the transportation situation is unusually serious. While bus lines are becoming more dependable daily, much of the business incident to mine and mill operation is of a character which cannot be moved profitably with the truck. The matter should be taken up in a spirit of cooperation with the carriers, and around the table, agreements and concessions reached which will result in reduced cost of operation, more business for the railroad and a united effort to build up the mining industry.

"Among the measures under consideration is a burdensome and unjust mine taxation law; amendments to the industrial compensation laws that would make drastic increases in the cost of mining operation; a reapportionment bill that unjustly deprives mining counties of a large proportion of their representatives in the general assembly; a miners' qualification law that in effect would make affiliation with a labor organization a requisite of employment in mines.

"Another vicious measure is the so-called severance tax or production tax on natural resources, which provides for a special tax on the output of mines producing coal, gold, silver, lead, copper, oil, gas, building stone and other mineral products. This tax would add half a million or more annually to the cost of mine operation in Colorado and the proceeds would be devoted to lessening the tax burden of more favored industries."

MAPS OF RIVERS IN UTAH, COLORADO AND WYOMING

TOPOGRAPHIC maps of the courses of Yampa and Green Rivers, Colorado, prepared for use in studying the best means of utilizing the resources of those rivers, have been published recently by the Department of the Interior through the Geological Survey. The scale is 2 inches to the mile; the contour interval is 20 feet on land and 5 feet on the river surface. These maps are printed in three colors, brown for contours, blue for streams, and black for public land lines and names. The set comprises 21 sheets, as follows: Yampa River, Colorado, from Green River to Morgan Gulch, 111 miles; plan, 3 sheets; profile, 2 sheets. Green River from Green River, Utah, to Green River, Wyoming, 387 miles; plan, 10 sheets, profile, 6 sheets. These maps are for sale by the Geological Survey at Washington, D C., for 10 cents a sheet.

Hydraulic engineers accompanied the river survey parties, and a manuscript report has been prepared by Warren Oakey which shows that 120,000 continuous horsepower can be developed at five sites on Yampa River. This report, which describes fully the prospects for waterpower and storage for irrigation on Yampa River, may be consulted at the office of the Geological Survey at Washington, D. C., or at the district office of the Survey at 313 Federal Building, Salt Lake City, Utah. A copy of the report will be sent for consultation to any other district office of the Geological Survey on application to the Director, Geological Survey, Washington, D. C.

A similar report on the power possibilities of Green River from Green River, Utah, to Green River, Wyoming, is in preparation.

LEGISLATIVE REVIEW

Congress Closes—Important Measures Enacted In Short Session—Mining Bills Received Attention—Many Bills Left By The Way—Next Session In December Unless President Calls Special Session—Tax And Tariff Revision Likely In Next Congress

AFTER a strenuous three-months' grind, during which a mass of legislation was disposed of, Congress at noon on March 4 ended by Constitutional limitation, and unless it is called in extra session by the President, will not reconvene again until next December. Many measures of the several thousand introduced during the past two years of the life of the Congress expired and must be revived at the next session to receive consideration. During the closing days of the session there was a wild scramble on the part of the advocates of the various measures to have their bills passed on. Many measures expired in committee, from which they never emerged, while still others were defeated on the floor of the Senate or the House or sent back to committee for further consideration.

After the experiences through which the country passed last year in connection with the naval oil reserve leases investigation, Congress suddenly took a decided aversion to further Congressional investigations. Considerable opposition was evidenced against continuance of proposed commissions. The fight largely centered around the Couzens Committee which has been investigating the Internal Revenue Bureau, and it involved in its wake the Senate Gold and Silver Commission. Senators were not unmindful of the heavy expense attached to various investigations, recalling that although the Coal Commission had expended $600,000 in an investigation of that industry, no legislation had been enacted on the subject. In fact, congressional criticism went so far as to aver that the investigation had been a complete waste of money. Congress authorized the publication of the reports of the Coal Commission at a cost of $20,000, on the ground that they should be available for economic studies and possible future consideration of coal legislation. The large number of coal regulatory measures died in committee.

The same considerations were forcibly recalled when another $100,000 was requested to continue the prosecution of the naval oil reserve lease cases which was in addition to the $100,000 appropriated last spring. More concrete results are expected from an investigation of the oil industry which is now being made under an appropriation of $50,000 by the Federal Oil Conservation Board appointed by the President. This board consists of members of the Cabinet who are seeking the cooperation of the oil industry in developing all data on the production of oil looking to its conservation and distribution at a reasonable price.

The closing of Congress marked the death of proposed blue sky legislation. Measures of this kind have been pending for some years and although the Denison bill was considered by the House it was amended in such form as to displease its advocates, resulting in the bill being virtually abandoned by its friends.

Attempts were made to abolish various government bureaus and commissions but without success. Attack was leveled at the Tariff Commission, Federal Trade Commission and the Railroad Labor Board.

Considerable of the time of the recent session was devoted to the Muscle Shoals power project, which was marked by a struggle between the advocates of government operation and private development, the latter winning in the end.

In the field of mining legislation, particular interest centered in the bill to direct the Treasury to purchase 14,000,000 ounces of silver at $1.00 per ounce under the Pittman Act. This bill, which had been previously passed by the Senate, was on the House Calendar awaiting opportunity for consideration, which was urged by its advocates, in the face of Treasury opposition.

One mining bill suffered a reverse in being recommitted to the Mines and Mining Committee of the House. This measure proposed to suspend the annual assessment requirement on radium ore mining claims for three years. Objection was based on the fact that it would tie up a large acreage of public lands, the owners of which would escape the assessment work requirement. Legislation was proposed to permit the purchase of land containing concentrated deposits of gold, silver, cinnabar, lead, tin, copper or other minerals in 640-acre tracts.

A large number of bills affecting mining were passed by either the House or Senate. One of these included a proposal to allow prospecting permits and leases for sulphur on public lands in 640-acre tracts. The Senate passed the bill to apply the law to lands in Louisiana, while the House committee amended it to include all lands except a tract in San Bernardino County, California. A bill was passed by the Senate authorizing permits and leases for potash lands. Both House and Senate passed a measure for conservation of helium under the Interior Department.

Another bill passed by the House amended the mining law affecting Alaska to permit the patenting of fractional units of placer mining claims. Legislation was proposed to extend until July 31, 1926, the time in which oil and gas permittees should begin operations under their permits, based on difficulties of transportation to the oil

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Inaugural stands in front of the Capitol. The light in the lantern above the dome indicates that one, or both houses of Congress were in session when the photograph was taken

IMPORTANT BILLS REVISED IN THIS ISSUE

MINING—
- S. 2917: Pittman (D.), Nev. Silver Purchase.
- R. R. 12231: Black (D.), N. Y. Gold Coins.
- S. Res. 323: Oddie (R.), Nev. Silver Commission.
- H. J. Res. 142: Brumm (R.), Pa. Mine Assessment.
- S. 4315: Cameron (R.), Ariz. Concentrated Deposits.
- S. 4120: Ransdell (D.), La. Sulphur Leases.
- S. 3005: Ladd (R.), N. D. Potash Leases.
- H. R. 5722: Kahn (R.), Calif. Helium Conservation.
- H. R. 4148: Sutherland (R.), Alaska. Alaskan Mine Law.

OIL—
- S. J. Res. 182: Jones (R.), Wash. Oil Lease Extension.
- H. J. Res. 355: Zihlman (R.), Md. Oil Industry.
- S. Res. 337: Trammell (D.), Fla. Oil Industry.
- H. R. 9189: Wilson (D.), La. Oil Pollution.

COAL—
- S. Res. 338: Howell (R.), Nebr. Railroad Ownership.
- S. Con. Res. 3: Oddie (R.), Nav. Coal Reports.

TAXATION—
- S. Res. 333: Couzens (R.), Mich. Senate Investigation.

INDUSTRY—
- S. Res.286: Norris (R.), Nebr. Power Inquiry.
- S. 4008: Wadsworth (R.), N. Y. Trade Commission.
- S. J. Res. 121: Dial (D.), S. C. Raw Material Exports.

TRANSPORTATION
- S. J. Res. 107: Smith (D.), S. C. Rate Adjustment.
- H. R. 11795: O'Connor (D.), La. Waterways Commission.

IMMIGRATION—
- H. J. Res. 337: Johnson (R.), Wash. Immigration Investigation.

fields. Recent increases in gasoline prices prompted resolutions for investigation of the oil industry. They seek to determine whether a monopoly or combination in restraint of trade exists among producing, refining and distributing companies.

Further legislation forbidding oil pollution of streams was passed by the House. This bill seeks to prevent the discharge of oil into navigable rivers from refineries, oil wells, terminals, tanks or storage places.

Considerable coinage of special currency in celebration of various historical events was introduced, which prompted the Treasury Department to protest. The Treasury takes the position that these special coins are not freely circulated as they are not familiar to the public and tend to destroy the integrity of the coinage.

Rate adjustment to meet conditions in several industries in order that commodities may freely move in commerce is provided in a resolution enacted by Congress, which calls on the Interstate Commerce Commission to establish reasonable rates. This legislation was primarily designed to relieve the agricultural situation, but will apply to all commodities.

Following the adjournment of Congress there was a general exodus of members back home for the long recess until next session. There are numerous Congressmen who feel that there should be an extra session before that time in order to consider general legislation which could not be taken up at the recent three-months session. These include Senator Borah of Idaho, who says there should be coal legislation to carry out the recommendations of the Coal Commission. The only serious consideration for an extra session is that attached to the possibility of tax revision next September. By July the Government will know the state of finances from which may be determined if tax reduction is possible. In this event, the President, who favors economy in expenditures by the government and lower taxes, may call an extra session to further reduce the burden and revise administrative provisions of the tax law.

MINING

Silver Purchase

S. 2917. Reported by the House Banking and Currency Committee. This bill, which was passed by the Senate at the last session, directs the Treasury Department to purchase 14,589,730 ounces of silver at $1 per ounce under the Pittman Act. This silver is to cover Pittman act silver used by the Treasury in subsidiary coinage which was first charged to the Pittman Act and then revoked. The committee amended the bill so as to require all silver bullion purchased under the Pittman Act to be coined into standard silver dollars, and also for repeal of the Pittman Act. In reporting the bill Representative McFadden, Rep., Pa., chairman of the committee, says it is necessary to repeal the Pittman Act because under that law there could still be allocated and broken up for subsidiary coinage 130,000,000 ounces of silver for which a like amount of silver would have to be purchased under the act. "As the purposes of the act will have been completed when the present contemplated purchase is made, it is unwise to leave the act open for an opportunity for abuse hereafter in manipulating the silver market," he says.

Gold Coins

H. R. 12231. Introduced by Mr. Black (Dem., N. Y.). Referred to the Committee on Coinage. It proposes to regulate the value of gold coins by providing as follows:

"That it shall be unlawful for any person to buy gold coins of the United States for the purpose of speculation, or to sell gold coins of the United States for more than the nominal or face value thereof, except that the provisions of this Act shall not apply to gold coins bought or sold for conversion into bullion, gold coins of antique value, and gold coins issued, under special authority of law, in commemoration of a specified event or person.

"Any person who violates the provisions of this Act shall, upon conviction thereof, be punished by a fine of not more than $1,000 or by imprisonment for not more than one year, or both."

Gold and Silver Inquiry

S. Res. 323. Introduced by Mr. Oddie (Rep., Nev.). Referred to the Committee on Contingent Expenses. This proposed to continue for two years after March 4, 1925, the Senate Gold and Silver Commission.

Mine Assessment

H. J. Res. 142. Recommended to the Committee on Mines and Mining, which means the death of the bill for this Congress. This measure proposed to suspend the annual assessment work on carnotite or other radium-bearing ore mining claims for three years. The killing of the bill followed debate at two

separate sittings of the House, during which opposition was expressed to waiving the assessment requirements of $100 worth of labor on such mining claims.

Mineral Exchange

H. R. 11500. Reported by the Senate Committee on Public Lands. This bill, which has already passed the House, proposes to exchange mineral lands in national forests, by providing as follows:

"Either party to an exchange may make reservations of timber, minerals, or easements, the values of which shall be duly considered in determining the values of the exchanged lands. Where reservations are made in lands conveyed to the United States the right to enjoy them shall be subject to such reasonable conditions respecting ingress and egress and the use of the surface of the land as may be deemed necessary by the Secretary of Agriculture; where mineral reservations are made in lands conveyed by the United States it shall be so stipulated in the patents, and that any person who acquires the right to mine and remove the reserved deposits may enter and occupy so much of the surface as may be required for all purposes incident to the mining and removal of the minerals therefrom, and may mine and remove such minerals upon payment to the owner of the surface for damages caused to the land and improvements thereon: Provided, That all property, rights, easements and benefits authorized by this section to be retained by or reserved to owners of lands conveyed to the United States shall be subject to the tax laws of the States where such lands are located."

Concentrated Deposits

S. 4315. Introduced by Mr. Cameron (Rep., Ariz.). Referred to the Committee on Mines and Mining. This measure provides for the location and purchase of lands containing concentrated mineral deposits. Under it all concentrated deposits of gold, silver, cinnabar, lead, tin, copper or other valuable minerals in horizons or occurring in belts or zones underlying a non-mineral overburden or sedimentary deposit, in lands belonging to the United States, surveyed and unsurveyed, are free and open to exploration and purchase, and the lands in which they are found, to occupation and purchase by citizens of the United States or by any association of such citizens or by any corporation organized under the laws of the United States, State or Territory. Mining claims under this act would be in the form of a square or rectangle, not exceeding 640 acres with a surface boundary of not more than 5,285 feet. To complete a location of such a claim the entryman would be required within 60 days from the date of location to erect a conspicuous monument of stones or upright post projecting four feet above the ground at each corner and at the center of each boundary line, and in or on one of the corner monuments to post a location notice. He would also be required to file a notice of the location in the office of the recorder of the county in which the claim lies. The location notice would contain the name of the claim located; the name of the locator; date of location; length in feet and general course of the boundaries of the claim; situation of the claim in relation to some fixed point, established monument or known place that will identify it and statement that location of the claim is made under this act.

The locator would then be allowed four months from the date of location to prepare for beginning active work on the claim for the discovery of minerals named and during this period the land in the claim would not be subject to other location, entry, appropriation or purchase. Upon the expiration of the four months, active work for the discovery of valuable deposits must be commenced on the claim and until patent for it is issued not less than $3,200 must be expended for work, labor and materials for the discovery, development or mining of such deposits during the year. When a claim is one of a group such expenditure may be made on one or more claims of such group. So long as they comply with the act the locators would have the exclusive right to possess and enjoy all the surface included in the boundaries of their location and of all valuable deposits within the boundary of the claim, extending vertically downward.

Work for the discovery, development or mining of deposits of valuable minerals may be performed in any one or more of a group of mining claims located under this act lying contiguous and owned by the same person, corporation or corporations, and not exceeding four such claims in all for the benefit of such group.

After discovery of deposits of valuable minerals in any claim located under the act and the expenditure for the development or mining thereon of not less than $6,400 or the expenditure of such sum for other such purpose on any one or more mining claims of the same group for such benefit, the claim may be patented under Section 2325 R. S. The act will not apply to lands in military or Indian reservations, national parks or monuments, or to coal, oil, gas or phosphate reserves or withdrawals.

Sulphur Leases

S. 4120. Introduced by Mr. Ransdell (Dem., La.). Passed by the Senate. This bill proposes to promote the production of sulphur upon public lands in Louisiana under permits and leases to be issued by the Interior Department. Prospecting permits would be for two years and would cover not more than 640 acres. If the permittee discovers sulphur he would be entitled to lease the land at a royalty of 5 percent of the quantity or gross value of the output of sulphur at the point of shipment to market. Persons having oil and gas permits who discover sulphur on their lands shall be entitled to a sulphur lease. Lands known to contain valuable deposits of sulphur and not covered by permits or leases shall be leased by the Interior Department at competitive bidding, the royalty to be fixed by the Department. Successful bidders for these leases would be required to pay in advance a rental of 50 cents per acre per year, the rental for one year to be credited against the royalties for that year. Prospecting permits or leases may be issued for sulphur in public lands which also contain coal or other minerals, on condition that the other deposits be reserved to the United States for disposition under applicable laws.

H. R. 11999. Introduced by Mr. Lazaro (Dem., La.). Referred to the Committee on Public Lands. This is similar to the foregoing. The Senate bill was reported by this committee, with an amendment to apply it to all lands in the country, except those in San Bernardino county, California.

Potash Leases

S. 3005. Passed by the Senate. This proposes to promote the mining of potash on public lands under prospecting permits and leases to be issued by the Interior Department. Prospecting permits would be issued for a period of two years for 2,560 acres. Prospecting permits would not apply to lands near Searles Lake, California, which would be operated or leased by the government. If the prospector discovers potash he would be entitled to a lease at a royalty of not less than 2 percent of the quantity or gross value of the potash output at the point of shipment to market. Lands known to contain valuable deposits would be leased at competitive bidding at the same royalty and the payment of an advance rental of 25 cents per acre for the first year; 50 cents per acre for the second, third, fourth and fifth years; and $1 per acre annually thereafter.

Grazing on Mine Lands

S. 4076. Introduced by Mr. Phipps (Rep., Colo.). Referred to the Committee on Public Lands. This is a bill establishing grazing districts for livestock on public lands under direction of the Interior Department. Under it the Department may permit the use of timber, stone, gravel, clay, coal and other deposits by bona fide settlers, miners, residents and prospectors for mineral, for firewood, fencing, buildings, mining, prospecting and other domestic purposes

within livestock grazing areas to be established. The bill does not restrict the use of water on public lands in grazing districts for mining, milling, domestic or irrigation purposes; nor does it forbid entry and exist over public lands for prospecting, locating, developing, entering, leasing or patenting mineral resources of the grazing districts under the applicable laws.

Park Lands

S. 4190. Introduced by Mr. Norbeck (Rep., S. D.). Referred to the Committee on Public Lands. This bill proposes to patent to South Dakota for park purposes lands in the Custer State Park now claimed under the United States general mining laws.

H. R. 11077. Introduced by Mr. Williamson (Rep., S. D.). Reported by the Committee on Public Lands. This is similar to the foregoing.

Helium Conservation

H. R. 5722. Passed by the House and Senate. This bill proposes to exploit, produce and conserve helium for government needs, through the Interior Department and its Bureau of Mines. As passed by the Senate, the bill provides that for the purpose of producing helium for government needs, the Department shall acquire land or interest therein by purchase, lease or condemnation, when helium cannot be purchased from private parties at less cost; to explore for, procure, or conserve helium gas; drill or test helium lands; and construct plants and pipe lines for the production, storage and repurification of helium. Known helium lands not covered by permits or leases under the leasing law may be reserved by the government. The Bureau of Mines is authorized to operate helium production and repurification plants; to explore for, produce and store helium, and to conduct experiments and researches on helium and improved processes and methods of its production, repurification, storage and utilization. Helium produced above government needs may be leased to Americans.

Alaskan Mine Law

H. R. 4148. Passed by the House. Reported by the Senate Mines and Mining Committee. This bill amends the mining law applying to Alaskan placer mining claims to read as follows:

"That no placer mining claim hereafter located in Alaska shall be patented which shall contain a greater area than is fixed by law, nor which is longer than three times its greatest width as determined by a transverse line drawn within the lines of the claim and at right angles to its longest side. Provided, That where any isolated parcel of placer ground lies between and adjoins patented or validly located claims on all of its sides and is not over 1,320 feet in length this dimensional restriction shall not apply.

"This bill is designed to correct a condition that has developed in the placer mining sections of Alaska by reason of the inhibition contained in the act of August 1, 1912, in restriction of the length of placer mining claims for patent entry," said Representative Robsion, Rep. Ky., chairman of the committee, in reporting the measure. "In many cases rectangular mining claims have been located with an area in excess of the 20 acres provided for in the law, and when these claims have been surveyed the excess area is eliminated from the claim by the survey and is located as a fractional claim upon which assessment work to the value of $100 per annum must be performed, the same as if it were a 20-acre claim. These fractions, in almost all cases, are of much greater length than three times their width, and cannot be entered for patent. The bill would correct the situation to the extent of permitting the above-described fractions that lie between other claims to be patented." The bill has the approval of the Interior Department.

Roads to Mines

H. J. Res. 60. Passed by the House. This resolution authorizes $750,000 for improvement of the Nome-Shelton-Kugrup River-Keewalik, Alaska, system of roads, which will aid in mine development.

Mine Inspection

H. R. 11979. Introduced by Mr. Curry (Rep., Calif.). Referred to the Committee on Territories. This bill proposes to authorize the Interior Department to detail an employe of the Bureau of Mines to perform the duties of mine inspector in Alaska.

Mineral Exhibit

H. J. Res. 340. Introduced by Mr. Richards (Dem., Nev.). Referred to the Committee on Expositions. This bill appropriates $400,000 for government participation at Reno, Nevada, in 1926, in the Nevada Transcontinental Highways Exposition, to advertise the mineral and other resources of the West.

Mint Coinage

H. J. Res. 259. Enacted into law. It authorizes coinage of 300,000 fifty cent silver pieces in commemoration of the 150th anniversary of the Battle of Lexington and Concord.

S. J. Res. 171. Introduced by Mr. Butler (Rep., Mass.). Referred to the Committee on Appropriations. This bill proposes to coin 300,000 fifty cent silver pieces in commemoration of the 150th anniversary of the Battle of Bunker Hill.

H. J. Res. 318. Reported by the Committee on Library. This is similar to the foregoing.

H. J. Res. 326. Introduced by Mr. Bland (Dem., Va.). Referred to the Committee on Library. It proposes to coin 300,000 fifty cent silver pieces in commemoration of the 150th anniversary of the battle and surrender at Yorktown.

S. 4024. Passed by the Senate. It proposes to coin 300,000 fifty cent silver pieces in commemoration of the 75th anniversary of the admission of California into the Union as a State.

S. 3895. Reported by the House Committee on Coinage. This bill, already passed by the Senate, proposes to coin 40,000 silver fifty cent pieces in commemoration of the 150th anniversary of the Battle of Bennington and the independence of Vermont.

S. J. Res. 187. Introduced by Mr. Pepper (Rep., Pa.). Referred to the committee on Library. It proposes to coin 500,000 gold $1.50 pieces and not more than a million silver fifty cent pieces in commemoration of the 150th anniversary of the Declaration of Independence.

H. J. Res. 357. Introduced by Mr. Darrow (Rep., Pa.). Referred to the Committee on Expositions. It is similar to the foregoing.

H. R. 12329. Introduced by Mr. Gilbert (Dem., Ky.). Referred to the Committee on Coinage. This proposes to coin 500,000 fifty cent silver pieces in commemoration of the 150th aniversary of the founding of the State of Kentucky.

S. 4334. Introduced by Mr. Stanley (Dem., Ky.). Referred to the Committee on Banking and Currency. This is similar to the foregoing.

Secretary of the Treasury Mellon has suggested the following objections to these special coins, in a letter to the House Coinage Committee:

"The coinage should not be commercialized to finance any project or commemorate any other events than those of great national importance to all the people. The policy of issuing special coins opens the way to counterfeiting and makes the protection of the integrity of our coinage much more difficult. The issue of special coins is not in the interest of the general public and usually satisfies a very limited demand. The practice introduces confusion into our system of coinage, is an unnecessary expense and as actual results have shown, special coins are not liked by the public, and are seldom absorbed for circulation. There are known instances of special coins being refused in trade for the reason that the public is not familiar with them." The Secretary submitted the following statement relative to special coins recently issued:

	Number Authorized	Number Struck	Number Returned
Maine half dollar	100,000	50,000	.....
Pilgrim half dollar	300,000	300,000	80,000
Missouri half dollar	250,000	50,000	29,600
Alabama half dollar	100,000	70,000	4,000 [1]
Grant half dollar	250,000	100,000	28,400
Monroe Doctrine half dollar	300,000	274,000	217,000 [2]
Huguenot-Walloon half dollar	300,000	142,000	55,000 [3]

Topographic Survey

H. R. 4522. Reported by the Senate Public Lands Committee. This bill, already passed by the House, provides for the completion of the topographical survey of the United States by the Geological Survey and Coast and Geodetic Survey, during a period of twenty years at a cost of $37,200,000. The survey is necessary in the interest of mining operations and oil prospecting, among others.

OIL

Oil and Gas Lands

S. 2975. Enacted into law. It provides that existing entries allowed prior to April 1, 1924, under the stock raising homestead act of December 29, 1916, for land withdrawn as valuable for oil or gas, but not otherwise reserved or withdrawn, shall be validated, if otherwise regular. It is stipulated that at the date of entry the land was not within the limits of the geologic structure of a producing oil or gas field.

Oil and Gas Extension

S. J. Res. 182. Introduced by Mr. Jones (Rep., Wash.). Referred to the Committee on Mines and Mining. This bill proposes to extend until July 31, 1926, the time of oil and gas permittees under the leasing law, within which to begin operations or to drill wells to a depth and within the time prescribed by the leasing law, and to extend the time for completion of such drilling. The bill would apply to permittees who have been unable, because of lack of transportation facilities, wharves, or roads, to move machinery to the ground covered by their permits in order to begin drilling operations.

H. J. Res. 352. Introduced by Mr. Sutherland (Rep., Alaska). Referred to the Committee on Public Lands. This is similar to the foregoing.

Oil Lease Inquiry

H. Doc. 580. This is a request of the President for an additional appropriation of $100,000 to enable the government to prosecute the cases involving leases on naval oil lands. An appropriation of $100,000 was made for this purpose at the last session.

Oil Board

In a deficiency law passed by Congress and approved by the President, $50,000 was voted for the President's Federal Oil Conservation Board.

Oil Inquiry

H. J. Res. 355. Introduced by Mr. Zihlman (Rep., Md.). Referred to the Committee on Rules. This resolution, which grew out of an inquiry by the District of Columbia Committee as to recent increased gasoline prices, proposes an investigation of the oil industry by seven members of the House, who would report next session on the following:

The stocks of crude oil and gasoline at refineries or elsewhere in the United States of January 1, 1925, and the owners and holders thereof;

The price of crude oil and gasoline at said refineries and in the open market on January 1, 1925;

The relation the recent increase in crude oil bears to the increase in the price of gasoline and the percentage thereof;

Whether or not the recent increase in the price of crude oil and gasoline has been general and uniform by all companies throughout the United States or whether there has been marked local differences in the prices charged in the various localities;

Whether there exists a monopoly or combination in restraint of trade or commerce or violation of law among the producing, refining and distributing companies.

S. Res. 337. Introduced by Mr. Trammell (Dem., Fla.). No committee reference. This resolution proposes an investigation by the Federal Trade Commission as to the cause for recent increases in prices of oil and gasoline. The commission is asked to determine whether a monopoly or combination exists among gasoline producers and wholesalers.

Oil Pollution

H. R. 9199. Passed by the House. This bill proposes to forbid the discharge of oil from refineries, oil wells, terminals, tanks or storage places into navigable rivers. It was amended, on motion of Representative Howard (Dem., Okla.), to exempt tributaries of rivers from operation of the measure. The measure, which if enacted, would be administered by the War Department, imposes a fine of from $50 to $2,500 or one year imprisonment for its violation, and each day of the violation would be considered a separate offense. Punishments for violation of the act would not apply until three months after regulations under the act are issued by the Department.

COAL

Railroad Mines

S. Res. 338. Introduced by Mr. Howell (Rep., Nebr.). Referred to the Committee on Interstate Commerce. This resolution calls for an investigation by that committee of proposed consolidation of railroads, including the Nickel Plate system. The investigation is based on the theory that the proposed consolidation would place extensive anthracite and bituminous coal lands under railroad control. Reference is made to the fact that the Supreme Court has denounced control of coal mines by railroads as against the public interest.

Coal Reports

S. Con. Res. 3. Passed by House. This resolution, already passed by the Senate, provides for publication of the reports of the Coal Commission.

TAXATION

Revenue Inquiry

S. Res. 333. Introduced by Mr. Couzens (Rep., Mich.). Referred to the Finance Committee. This resolution proposes to continue after March 4, the committee headed by the Michigan Senator, which has been investigating the administration of the Internal Revenue Bureau.

Tax on Minerals

S. 876. Reported by the House Committee on Indian Affairs. This bill, which has already passed the Senate, provides that the production of minerals on unallotted Indian lands may be taxed by the States in which located. It allows $15,000 from Navajo Indian funds to be used in connection with supervision of the development and operation of the oil and gas industry on this reservation in Arizona and New Mexico.

INDUSTRY

Power Inquiry

S. Res. 286. Introduced by Mr. Norris (Rep., Nebr.). Passed by the Senate. This resolution provides for an investigation by the Federal Trade Commission as to whether the General Electric Power Company is monopolizing the power industry.

Trade Commission

S. 4008. Introduced by Mr. Wadsworth (Rep., N. Y.). Referred to the Committee on Interstate Commerce. This bill proposes to amend the law regarding handling of complaints before the Federal Trade Commission, designed to facilitate disposition of cases.

H. R. 11793. Introduced by Mr. Williams (Rep., Mich.). Referred to the

[1] Destroyed at the mint; not returned.
[2] On hand at close of exposition; later offered at face value.
[3] 24,000 additional coins not called for.

Committee on Interstate Commerce. This is similar to the foregoing.

Foreign Trade

S. J. Res. 121. Indefinitely postponed. This bill proposed to create an Alien Property Trade Investment Corporation with $150,000,000 capital for the purchase of raw materials to be exported to Germany.

Agricultural Relief

To meet the depression in the agricultural industry a large number of bills were introduced intended to "place agricultural commodities upon an equality under the tariff laws with other commodities and upon an equality with industry and labor."

Merchant Marine

H. R. 11797. Introduced by Mr. White (Rep., Me.). Referred to the Committee on Merchant Marine. This proposes to create in the Department of Commerce an under-secretary for merchant marine.

Waterways Commission

H. R. 11795. Introduced by Mr. O'Connor (Dem., La.). Referred to the Committee on Flood Control. This bill proposes to create a Waterways and Water Resources Commission of seven members to coordinate engineering, scientific and constructive services of the government and to study and develop the control of waterways and water resources, including utilization of water power, conservation of water for industrial use, cooperation of railways and waterways and to promote terminal and transfer facilities. The commission is to report to Congress plans for development of waterways and water resources. The bill appropriates $250,000.

Cape Cod Canal

H. R. 3933. Reported by the Senate Committee on Commerce. This bill, already passed by the House, provides for the purchase by the government of the Cape Cod Canal at a cost of $11,500,000.

Senator Fletcher (Dem., Fla.), introduced an amendment to the bill fixing the price at $9,000,000.

TRANSPORTATION

Freight Rates

S. J. Res. 107. Enacted into law. This law directs the Interstate Commerce Commission to readjust the freight rate structure, based on conditions prevailing in the industries, in order that commodities may freely move in commerce. The law provides:

"That it is hereby declared to be the true policy in rate making to be pursued by the Interstate Commerce Commission in adjusting freight rates, that the conditions which at any given time prevail in our several industries should be considered insofar as it is legally possible to do so, to the end that commodities may freely move.

"That the Interstate Commerce Commission is authorized and directed to make a thorough investigation of the rate structure of common carriers subject to the interstate commerce act, in order to determine to what extent and in what manner existing rates and charges may be unjust, unreasonable, unjustly discriminatory, or unduly preferential, thereby imposing undue burdens, or giving undue advantage as between the various localities and parts of the country, the various classes of traffic, and the various classes and kinds of commodities, and to make, in accordance with law, such changes, adjustments, and redistribution of rates and charges as may be found necessary to correct any defects so found to exist. In making any such change, adjustment, or redistribution the commission shall give due regard, among other factors, to the general and comparative levels in market value of the various classes and kinds of commodities as indicated over a reasonable period of years to a natural and proper development of the country as a whole, and to the maintenance of an adequate system of transportation. In the progress of such investigation the commission shall, from time to time, and as expeditiously as possible, make such decisions and orders as it may find to be necessary or appropriate upon the record then made in order to place the rates upon designated classes of traffic upon a just and reasonable basis with relation to other rates. Such investigation shall be conducted with due regard to other investigations or proceedings affecting rate adjustments which may be pending before the commission."

IMMIGRATION

Immigration Commission

H. J. Res. 337. Introduced by Mr. Johnson (Rep., Wash.). Referred to the Committee on Rules. This proposes to create an Immigration and Naturalization Commission, consisting of the members of the Immigration Committees of the House and Senate. The commission would investigate the immigration question and report recommendations February 1, 1926. It appropriates $50,000.

PRODUCTION AND IMPORTS OF PYRITES IN 1924

THE production of pyrites in the United States, according to a statement from the Geological Survey, dropped from 181,628 long tons, valued at $661,000, in 1923 to 160,096 long tons, valued at $645,262, in 1924 and, with the exception of 1921, when only 157,118 long tons were produced, was the smallest recorded since 1897. The figures for 1924 show a decrease of 12 percent in quantity but of only 2 percent in value as compared with 1923. The average value per ton was thus higher in 1924 than in 1923, being $4.03 as compared with $3.64. Although the production of pyrites dropped 12 percent in 1924, the quantity of pyrites sold and consumed by producing companies dropped only 6 percent, half as much, or from 170,997 tons in 1923 to 160,075 long tons in 1924. In 1924, as in 1923, the pyrites produced was mined in California, New York, Ohio, Virginia, and Wisconsin. The combined production of California and Virginia was 152,309 tons; New York produced 7,593 tons, Ohio 73 tons, and Wisconsin 121 tons.

The imports of pyrites containing more than 25 percent of sulphur in 1924 amounted to 243,237 long tons, valued at $582,794, according to the Bureau of Foreign and Domestic Commerce. Of this amount 242,786 long tons, or 99.8 percent, was imported from Spain. In 1923 the imports were 263,695 long tons, valued at $1,254,389, of which 252,862 long tons, about 95.9 percent, came from Spain. The imports records for 1924 and 1923 indicate a decrease of about 50 percent in the average value per ton of pyrites imported.

EXPOSITION AT CINCINNATI

(*Continued from page* 105)

it possible for the operating officials in attendance to secure the greatest possible benefits from the meeting.

ENTERTAINMENT FEATURES

The hotel facilities in Cincinnati will comfortably take care of all persons attending the meeting. There will be pleasurable entertainment features worked out for the delegates and it is expected that supplementary meetings will be held by various mining institutes and coal associations in Cincinnati at the same time.

The character of the program committee, the topics which have been selected and the interest which has been shown both by manufacturers and operating officials indicate that Cincinnati, Ohio, will again be the center of the operating side of the industry in May.

A report on the platinum deposits near Centennial, Wyoming, examined by Dr. Frank L. Hess, of the Geological Survey last year, will be ready for distribution in the near future. With this will be published notes on assaying for the platinum metals.

The Bureau of Mines issued a report on the status of research in ore dressing, prepared in cooperation with the mining departments of the University of California and Massachusetts Institute of Technology.

THE NATION'S VIEWPOINT

A Digest Of The Expressed Opinions Of Leaders In American Affairs

"MORE Business in Government and Less Government in Business" was one of the most popular slogans adopted in many years, and unquestionably was a definite pronouncement against centralization in government at Washington. The **Hon. Lee S. Overman,** *United States Senator from North Carolina,* in commenting upon this tendency to centralize power in Washington said:

"There has been far too great a tendency to pass on to Washington disagreeable tasks and asking the general government to find the solution. We need some good old-fashioned home-grown Democracy in America today, the spirit that will move people to look around home a little and see if they cannot do some of their own governing.

"There is no safe basis for judging just how far this concentration of power and government at Washington will go. Even now we are confronted with a proposition regarding education that will, if heeded by Congress, finally result in the nationalization of our public-school system.

"Nationalize! Centralize! These seem to be the slogans of individuals who do not understand what the fundamental American system is, and who would like to change our system after a foreign pattern. Why, we fought the Revolution to escape a concentration of power unwisely used. Our forefathers were determined that they would make no such mistake in America. Power was to be w i s e l y distributed and jealously guarded.

"But one thing will halt it—the American people; they alone can halt it. When they see their home affairs taken away from them one by one and intrusted to the tender and distant mercies of bureaucratic administration, they are going to r e s u r r e c t Democratic doctrine on this question and adopt it. States rights is no longer a partisan nor a sectional but an American doctrine, in which even Republicans have come to believe. Washington itself will be forced by the very burden which centralization imposes to warn the people not to be misled in giving away their rights. Not every problem that faces the country can be met by the simple expediency of more federal legislation.

"We have too many laws now. We are confronted today with the necessity of farm relief legislation, an obligation that members of Congress cannot ignore. But farm relief legislation becomes necessary today because so much of special privilege legislation has preceded it. If other interests, using special legislation inuring to their benefit, had not brought about the present economic situation the farmer would not be facing a condition that requires legislation for his benefit.

"The nation needs legislation to undo some of the legislation already enacted. The American people should have a fair chance to manage their own affairs. We should check the growing tendency of our Government to pry into our most private affairs, to take over the operation of our homes, and to dictate the conduct of our families. Americans do not want too much governing, and once they get the proper channel through which to express their resentment of it, they will make it clearly and unmistakably known."

Protesting against the centralizing of power in the government at Washington, the **Hon. David A. Reed,** *United States Senator from Pennsylvania,* recently said:

"Should it not be obvious to all of us that if we go on in this way centralizing power here in Washington and exposing the states each day in a new way to control from Washington, it will not be very long, with all power centralized here, before a majority of the states will tear with their fangs at any state that for the moment appears to be prosperous? The wisdom of those ancestors of ours who kept to the separate states a complete measure of independence from such attacks as that is now fully demonstrated."

Further along this line, the **Hon. Simeon D. Fess,** *United States Senator from Ohio,* unqualifiedly went against paternalism and government aid to industry when he said:

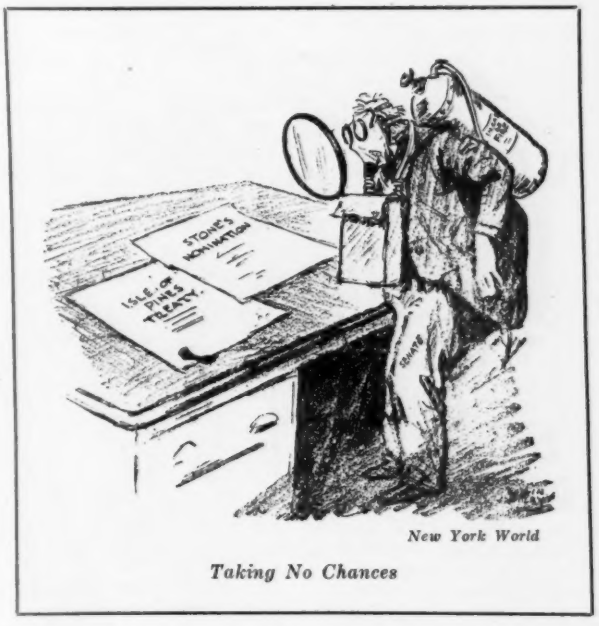
"I believe that the proper theory of the Government is that the nation must be looked upon as a unit, and,

New York Herald-Tribune

It takes more than that to scare 'em

New York Evening Post

R. S. V. P.



New York World

Taking No Chances

while recognizing the various states in their individual sovereignty, that we ought not to build the territorial boundaries so high that a citizen in Ohio is not interested in what is done in Indiana. In other words, the Government must be looked upon as an entity, and the people of one section must be interested in the people of the furthest sections of the country.

"I think, however, that our policy of giving federal aid to all of the states, not only in the way of road building but also in the way of genera. improvements and in the way of education, is a policy that is wise."

Speaking of slogans, none has been more prominent than that of "Eliminate Waste." *Secretary of Commerce* **Herbert A. Hoover** has been a great believer in simplification. In a recent public utterance he advocates:

"A definite constructive program of national scope has been developed for the elimination of waste in our economic system. The only way to increase real wages through proportionately lower prices is to improve methods and processes and to eliminate waste.

"We have the highest ingenuity and efficiency in the operation of our industry and commerce of any nation in the world, yet our economic machine is far from perfect. Wastes are legion. There are wastes which arise from widespread unemployment during depressions and from speculation and overproduction in booms; wastes attributable to labor turnover and the stress of labor conflicts; wastes due to intermittent and seasonal production, as in the coal and construction industries; vast wastes from strictures in commerce due to inadequate transportation, such as the lack of sufficient terminals; wastes caused by excessive variations in products; wastes in materials arising from lack of efficient processes; wastes by fire, and wastes in human life."

A certain element of the American public has determined that whenever anything is desired their slogan should be: "Amend the Constitution." Activity in this respect has led to comment and discussion in the leading papers of the country. **Dr. Gus W. Dyer,** *of Vanderbilt University,* in a recent address on "Responsibility of Leadership Under the Constitution," said:

"It is advocated that the crowd, sober or drunk, mad or in their right minds, be given full power through their delegates in Congress to do anything they want to do, abolish anything they want to abolish, destroy anything they want to destroy, without any sort of checks or restrictions from any source.

"It is proposed to give them power to take away from the individual his property rights, the right of free speech, his freedom of religion, his right to vote, and any and every other right, as they may see fit, and allow the individual no protection whatever against whatever the crowd may decide to do.

"Men invest millions of dollars in great enterprises without hope of returns for years to come, because they feel sure of the protection that the Constitution gives them. Men give their lives and their fortunes to the development of great business enterprises because they feel sure that these enterprises will be protected in their great service to humanity, by the Constitution of our country. Men donate vast millions to education and to religion because they feel sure that these sacred trusts

Wallace Press-Times

So—Bossy

will be protected in their service to generations unborn.

"The Constitution makes the people the source of all power, but it protects the individual in his fundamental rights against the fickle crowd. It protects the minority in things fundamental from the radicalism of the majority wrought into madness by the demagogue. It compels the people to cool off before depriving the individual of his rights, and it gives time for sane leaders to bring the people to their sober second thought.

"Take away the guarantee and protection that the Constitution gives to civilization and subject the business and other interests of this country to the whims of the crowd led by the demagogue and you destroy the essential condition of social progress.

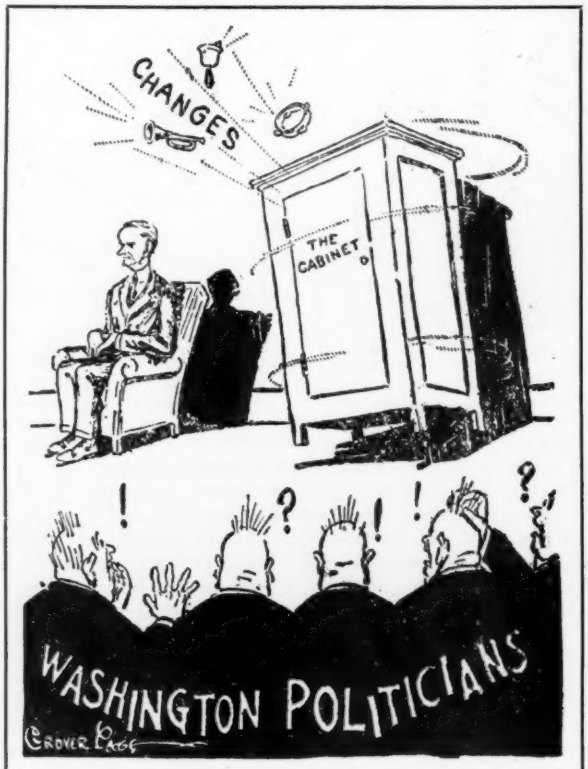
"The strength and stability of American civilization is due fundamentally to constitutional government. South America, Central America, and Mexico are extremely rich in natural resources, and they have been open to civilization as long as our land, yet there is no comparison in the progress made."

The **Hon. George H. Moses,** *United States Senator from New Hampshire,* in a recent address urged tax reduction and branded the present system of taxation as unjust, inquisitorial and wholly vicious. In part Senator Moses said:

"I fear that when the Sixty-eighth Congress dies there will be few or none so poor as to do it reverence. During its life 19,000 statutes were proposed, few of which, I am glad to say, will become laws. It has invaded every avenue to human enterprise and laid its heavy hand on the whole country with a system of taxation I believe to be unjust, inquisitorial and wholly vicious. I happen to be the only regular Republican member of the Senate who hasn't voted for a tax bill in seven years.

"We have moved far from the concepts of our fathers when a man could embark in any legitimate enterprise and reap its fruits, so long as he injured no one. Legislation has brought this situation to a complete cessation. A mother used to see a boy brush his teeth and wash behind his ears; now a school nurse does it. A father used to punish the infractions of his son; now it is the school teacher.

"The Government has thrust itself into the home. 'E Pluribus Unum' used to be our country's motto; today it is 'Pass the Buck.'



Louisville Courier-Journal

The Silent Medium

"So long as we continue a system of federal taxation whereby six northern states pay 64 percent of the taxes, so long will they continue to walk the floor of the Senate trying to get money away from them.

"We are at this moment considering a proposal to spend $75,000,000 of public money for federal aid for good roads. Of that, the State of New York, which had bonded and taxed itself for its own good roads system, is now asked to pay $21,000,000 to help build roads in other parts of the country. Until we get to a point where the sanctity of the Federal Treasury is regarded as a federal question, I can see but little relief.

"I am glad to say we had a 25 percent reduction in taxes last year and will have a 20 percent reduction this year. In the next four years, under the leadership of a prudent and economical Yankee, aided by a great Secretary of the Treasury, we should be able to produce a complete reform in our taxes."

When the proposition of printing the Coal Commission's report was before Congress, the **Hon. Thomas L. Blanton,** *Congressman from Texas,* said:

"That report is a great big weighty package of papers. It is about a foot and a half one way by about 10 inches the other and about 6 inches tall, and that file is filled solidly with manuscript paper. There will not be a person in the United States who will read it after you spend this $17,000 to print it, sending it after the other money we have wasted to the tune of $600,000 on the Commission itself."

The **Hon. Walter H. Newton,** *Congressman from Minnesota,* did not agree with Mr. Blanton, and urged the printing of the report, saying:

"There is no coal famine today, but the moment we arrive at the same situation we were in two years ago and have a strike, have embargoes, and all that, we shall be up against the same situation. Then the cry will be for Congress to legislate so as to move the coal and stop profiteering. This report would be very helpful. The report has been in demand by universities and by purchasing agents of municipalities who want the privilege of looking it over. I want to have the report made available to every municipality in the country."

The **Hon. William F. Stevenson,** *Congressman from South Carolina,* agreed with the wisdom of having the report printed, saying:

"In every one of these coal controversies, the question that always arises is what it costs to produce and market coal. The basic question of any regulation either in the states or nation—the states can regulate it even better than the nation—the basic question is always what it actually costs to produce it, what goes into the cost of production, and what are the conditions of labor that is producing it. This report contains that information. We have spent $582,000 getting the information and putting it in the form of a report. It shows all the items that any state, municipality, or the United States Government should know in order to regulate the spread between what it

Wallace Press-Times

Morning, Noon and Night

The Washington News

Then and Now!

costs and what is charged, and that is the reason I vote to publish the report."

The **Hon. Ralph F. Lozier,** *Congressman from Missouri,* was not in favor of printing the report and gave as the reason that—

"The publication of this voluminous report is not justified and it will not be read after it is published. It deals largely with dry statistics and details incident to the mining industry. The report is quite technical and necessarily uninteresting except to a few statisticians, accountants and theoretical students of the mining industry. It cannot be considered as affording accurate and dependable information as to the cost of production and transportation at the present time, because since the work of this commission was completed there has been a tremendous change in economic conditions and in the cost of production and transportation. I do not believe that either coal companies or the miners care to have this voluminous report published. Like most commissions, this commission has accomplished little and as such has done nothing toward a permanent settlement of the fuel and mining problems. The commission did not compose the differences between the miners and the producers. It did not determine what is or is not a living wage, a fair wage, or a reasonable wage. It did nothing to remedy the expensive system of marketing and distribution. The commission investigated many things, reviewed many problems, and discussed many theories, but determined little and settled nothing. The American people, the coal companies, and the miners realize that the United States Coal Commission was a great joke and has utterly failed to justify its creation.

"I am anxious to see a permanent peace established between the producers and the miners—a just peace, founded on the recognition of mutual rights and mutual obligations—a peace that will fairly and equitably settle the question of transportation and distribution of fuel and fairly and justly apportion the proceeds of the sale of the mine products between the producer and miner on a fair basis to one and not unfair to the other; but this problem cannot be settled by a Coal Commission or any other commission."

After this discussion and upon the vote being taken, it was agreed to print the Coal Commission's report—297 Congressmen voting for and 70 against its publication, with 94 not voting.

Coal consolidations are in the limelight. **Roger W. Babson,** in a recent forecast, intimates that the consolidation era is at hand.

"The reason for such consolidations as the United States Steel Corporation, the Amalgamated Copper Company and the American Woolen Company is that during a period of prosperity a large number of new concerns, in every line of business, spring up, old concerns expand, and almost every industry becomes inflated and spreads out. This results in a total producing capacity in excess of normal demands. During the depression—which according to the law of action and reaction is bound to follow—each industry gets into a position where it is making no money and is subject to cut-throat competition. The only way out is to reduce overhead, eliminate unnecessary competition, and produce and sell economically. This can be accomplished only through consolidations which, when properly consummated, reduce the cost both of manufacturing and selling. There is no reason why the present year should be an exception to the rule. History is bound to repeat itself, and the stage is now set in almost all industries for such consolidations.

"Of course, consolidations of the railroads are now being anticipated by all. Both the Government and the security owners are united upon the need for such combination. The main thing blocking these railroad consolidations seems to be the fear of certain railroad officials, attorneys, and specialists, who may lose their jobs as a result. However, these consolidations are inevitable and the action of the rails on the stock exchange is now discounting them. Consolidations among the industrials, however, are just as surely ahead of us."

In commenting upon Mr. Babson's forecast, *Black Diamond,* in its issue of

February 7, editorially remarked:

"The price trend of bituminous the past week indicates more than ever the absolute need of mergers if the industry is to be saved from itself. With all high-grade coals from the New River and Pocahontas fields of West Virginia to the Franklin, Williamson, Saline field in southern Illinois, showing quotations that cannot possibly represent a profit to producers, only one remedy seems possible and that is an absolute merging of interests that will permit only such tonnage to be mined that can be readily absorbed by the market.

"It will be noted that Babson says the main thing blocking many railroad combinations is the fear of certain officials that their name will not be found on the pay roll of the merged lines. This is parallel with the situation in some of the coal fields. We know a perfectly logical combination of two companies which if perfected would prove of incalculable benefit to the stockholders of both companies. This merger cannot be brought about because two officers refuse to sit on the same board of directors, and in the meantime the profits of the stockholders are sacrificed to prove to each potential director that the other fellow is not the boss.

"Personal pride must be kept in the background if there is to be a successful effort made on any extensive consolidation program. The limelight can't cast its rays on everyone. It is impossible for everybody to lead if we are to have a procession out of the slough of despondency. It's a big man that will let the other fellow have his way in matters of this kind. Unfortunately the coal industry is not oversupplied at present with men of this type. Perhaps that is why we hear an echo occasionally from the banking world complaining that the men of the coal industry lack vision. Here's hoping someone will buy them glasses so they can discern over the horizon the merger era now almost in our midst."

A recent newspaper announced a $100,000,000 consolidation of coal properties in West Virginia. Another announced a $60,000,000 consolidation in Indiana, and rumors of various other consolidations are heard frequently. In commenting upon the value of larger units in coal mining, the *Wall Street Journal* says:

"Ever since the war the coal mining industry has been the subject of surveys, investigations, diagnoses and prescriptions, by all manner of experts and engineers, both technical and political. One clear fact has emerged, which is that the industry is over-developed and much overmanned. This condition has been widely recognized for two or three years; mine operators have known it longer than that and the situation has grown worse instead of better. With no decline in the productive capacity of operations in the unionized fields, that of nonunion operations has steadily expanded until the ratio of 60 percent union to 40 percent nonunion, which existed prior to the 1922 strike, is declared by some trade authorities to have been almost completely reversed.

"In the face of competitive conditions which have financially crippled many union producers it is hard to account for the absence of any effort toward stabilization through combination, with the economies and efficiency of large scale management. At last a movement in that direction appears in the project to amalgamate upwards of 80 producers in northeastern West Virginia. Some idea of the individualistic, uncentralized and, in a sense, unorganized status of soft coal production may be gathered from the fact that these 80 operators of 150 mines, with invested capital said to be $100,000,000, produce only 4 percent of the country's bituminous output.

"At first glance there is something anomalous in the resort to consolidation by owners of mines worked chiefly by nonunion labor, at a time when economic pressure is undoubtedly more severe upon adherents to the Jacksonville wage agreement. A possible explanation is that profits of union operations are not just now such as to appeal to investors. Obviously similar undertakings in unionized fields might have difficulty in obtaining new capital. Nevertheless, the financial district is given to understand that consolidations in other fields, including parts of the central competitive district, are to follow.

"There is every reason to anticipate, for a conservatively capitalized coal merger of sufficient size, lower production costs than the average of its constituents working independently. Production can be concentrated, unnecessary mines shut down, improvements made which small single workings cannot afford and machine mining substituted for hand labor. It is not at all unreasonable to believe that larger units will promote better relations with employes, whether these are organized or not. Much unnecessary labor must sooner or later be taken out of coal mining and ownership consolidation will facilitate that process. Union leaders have long recognized that that is inevitable, if working conditions for the men are to be improved and the country is to get its coal at a reasonable price.

"Sound consolidations in mine ownership mean modernization of the industry. The more rapidly they are carried out the better."

As the frequently heard query "What's the Matter with the Coal Industry?" receded, the word "stabilization" took its place, and "Stabilize the Industry" was and is just as frequently

The Commercial Appeal

The High Priced Bird Dog!

The Commercial Appeal

Giddap, Methuselah!

New York Herald-Tribune

It's a poor father that won't set a good example for the family

heard. The Department of Commerce in a recent news release points out that:

"The coal industry is now on the road to stabilization, after some months of demoralization because of the large stocks of coal accumulated in anticipation of a possible strike last spring and by the lessened demand during the summer. The broad result of gained stability, however, has been that the public has received its coal during the last fiscal year at the lowest price of any year since before the war. During the year under review, prices averaged $2.23 per ton for run-of-mine coal, at the mine. In 1920, chiefly because of car shortage, the price averaged $5.64. That was a year of wild speculation and profiteering, with no constructive effort by the Government to improve the position of the consumer. In the year 1922, before cooperation could effect a remedy, a strike of five months intervened, followed by a great car shortage. Nevertheless, owing to the restraint imposed on profiteering and to the cooperation of various industries in distribution, the average price for that year was $3.67."

The tariff, always an item of interest and controversy, has been a leading topic for discussion during the current month. The so-called "free-trade South" has been one of the leading voices in defending the Fordney-McCumber bill. In an editorial on "Where Do You Stand on the Tariff Question?" the *Manufacturers Record* says:

"For a year or more this paper has taken the ground that the Fordney-McCumber tariff is not high enough to prevent a serious injury to American industries, and that if these heavy importations continued under the present tariff it would be detrimental to American industries, and that the inevitable lowering of wages which would follow would affect all business unfavorably.

"High wages have been a great blessing to this country. On high wages we have developed the enormous progress and prosperity of America as a whole. When defending a protective tariff, President Harrison once said: 'A cheap coat makes a cheap man.'

"Despite this situation there is an undercurrent of thought that a movement is under way, backed by some of the strongest interests in the country, to bring about a lowering of the present tariff. Financial and political influences, emanating in part from Europe and in part from those who are pouring American money into Europe for the development of Europe's industries, are in many cases seeking to bring about a lower tariff on the basis of internationalism instead of Americanism.

"This propaganda is not in the interest of America. It is wholly in the interest of Europe. Every American dollar that is being invested in Europe, whether it be loaned to European Governments or European industries, is a dollar argument, counted in the billions now, as an influence for breaking down our tariff.

"We are being told that we cannot become a world power or a world trader except by throwing wide open the gates of this country to the trade of Europe and the Orient, where the wages are beggarly, as compared with American wages. The danger is a real one. All the foreign trade we will ever develop is not one-tenth as important as the maintenance of our domestic trade.

"The South is waking up to the necessity of a protective tariff on its interests. Its politicians, however, have so long fought for free trade that they do not know how to scramble out of that position and stand for protection. It is possible that the time may come when those who believe in protection in each of these parties will have to unite and stand

against the tremendous influences that are seeking to break down a protective tariff in order that our country may be flooded with foreign goods, and thus insure the payment of the billions which are being invested so lavishly in European securities, public and private.

"We believe that the time has come when every man who is opposed to a lower tariff and to heavy importations of foreign goods should individually, and through every organization with which he is connected, voice his determined opposition to such a plan.

"Are you with us for a protective tariff on manufactured and agricultural products—a tariff high enough to save us from the disastrous effects of a free trade or low tariff?"

The committees of Congress that have been considering the naval oil reserve leases have made their reports to Congress and the majority report has been accepted. In commenting upon this, the *Oil Trade*, leading publication of the oil industry, editorially says:

"There is more than casual importance in the recent press reports of the adoption of the majority report of the Senate committee investigating the naval oil reserve leases. A stiff effort was made on the part of the stand-patters in the Senate to kill this report, and to adopt the minority report prepared by Senator Spencer, of Missouri. The minority report exonerated everybody and everything —spread on the whitewash with long, large strokes of the brush. The majority report condemned indignantly the whole transaction.

"The truth probably lies somewhere between. And quietly and steadily the work of the government's special counsels, Fomerene and Roberts, is going on—getting at the root of the matter. The quicker the 'whole truth' is told the better it will be for the oil business. The mills of the gods grind slowly—but they grind."

To those who have a wrong conception of the meaning of the word "standardization," an editorial by **Mr. F. F. Sharpless**, in *Mining and Metallurgy*, February issue, will be enlightening. Mr. Sharpless defends the work of the American Engineering Standards Committee and commends the work that has been carried on by the American Mining Congress and its Standardization Division for the last five years. Mr. Sharpless says:

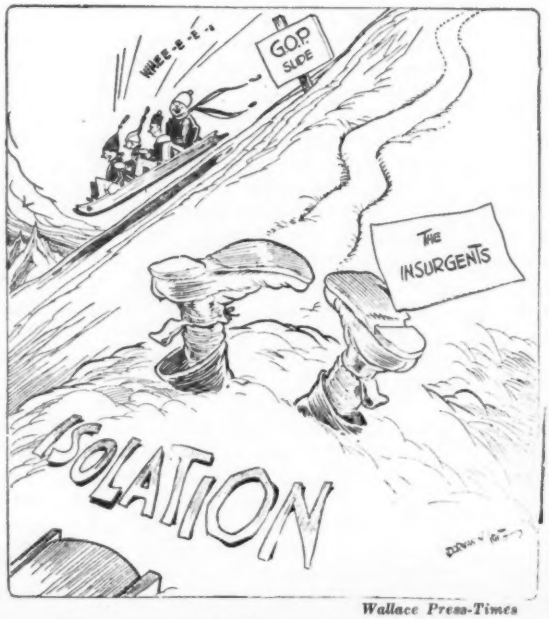
"If we had some other word to convey the idea it would be better. The aim of the committee is to define what is the best practice or best result now attainable, and to change that definition just as frequently as knowledge or practice shows that there is something better attainable.

"The standard of today may not be the best known, but it may be the most practical and economical. Tomorrow economic conditions may change, and expensive ingredient may become cheap, and the standard may be raised.

"One of the studies now before this committee is that of rock dusting to prevent coal mine explosions. This matter is now in the hands of a sectional committee on which all interested organizations are represented.

"Other committees are working on explosives, on transportation, and on illumination. All of equal importance with that of rock dusting. There are still many other problems to be worked upon having to do with safety of life and property and with economy of production. The amount of work to be done is limited only by the volunteers who are ready and willing to do the work.

"If those who look with some skepticism upon the American Engineering Standards Committee will question themselves as to some practice in their own mines or plants that is not entirely satisfactory, there will come a realization of a problem similar in many respects to those on which this committee is working. Then will come also a realization of why the committee is formed and why those who are giving to it liberally of their time should be heartily supported."



Wallace Press-Times

The Danger of Getting off the Beaten Path

Silver producers, assisted by the United States Treasury Department, are attempting to put into circulation the silver dollar. Among the comments pertinent to this effort, the *Engineering and Mining Journal Press* says, editorially:

"Some time ago, in making his annual report to President Coolidge, Secretary Mellon told of the steps that were being taken to get the public to use the silver dollar more freely. From 1910 to 1924, it seems, the number of 'cartwheels' in circulation has dropped from 72,000,000 to 54,000,000. The Treasury wishes to increase this by 40,000,000. The idea is to save in the cost of printing and replacing paper money, for the smaller denominations of which an unprecedented demand has developed in the last three years. Various ways of feeding these extra dollars into circulation are proposed.

"Unless a large part of the public can be persuaded that a silver dollar is just as convenient a form of money as a dollar bill for personal use it is likely that the hard money will flow back to the banks as soon as it is issued. In the East the occasional silver dollar has long been a curiosity to the average person, and were it not for visitors from the West the chances are that it would hardly be seen at all. The pocket will not stand the strain—not even 'Scotch' pockets, as a certain comedian calls those of the one-way kind. Silver is cleaner, especially in the crowded cities where paper money often smells to heaven. But its weight gives it an unpopularity that will be hard to overcome."

Mining companies interested in testing the validity of the Minnesota state law which imposes a tax of 6 percent on iron ore royalties have determined to carry the issue to the Supreme Court of the United States. A short while ago a Minnesota court held that the law was constitutional.

Secretary of Interior Work has issued regulations requiring operators holding leases on public lands to protect and plug securely old and unused oil and gas wells.

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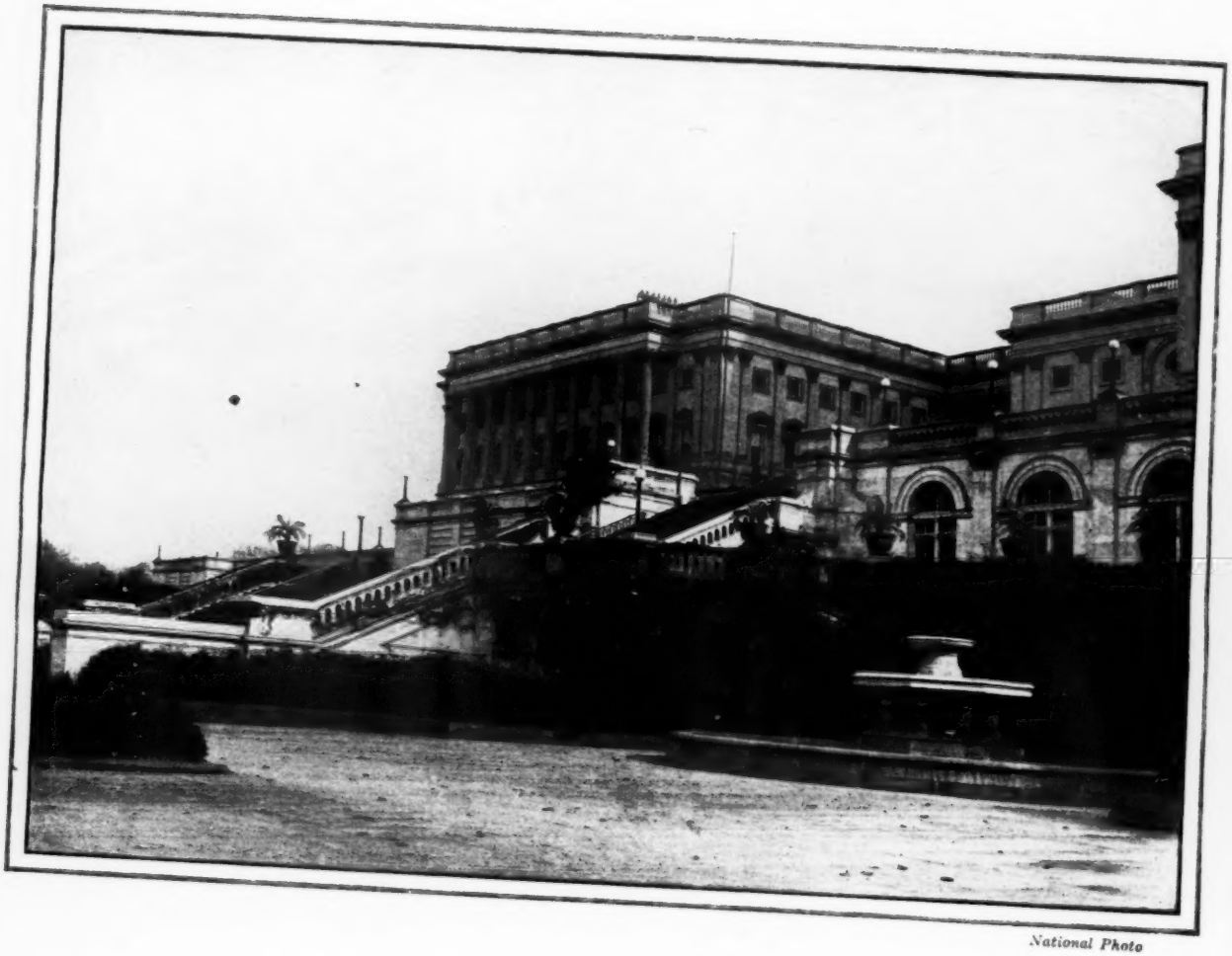

National Photo

Gardens and Fountain West Front of the Capitol.

TRANSLATING COAL STATISTICS INTO CASH

To Be Of Real Value, Any Figures Must Apply To A Coal Company's Immediate Surroundings And Market

By GEORGE H. CUSHING

WHENEVER anyone begins to talk about business statistics somebody is almost sure to quote Col. Mulberry Sellers to the effect that "there are 400,000,000 people in China; all of them have sore eyes. My eyewash will sell for a dollar a bottle. Millions of bottles; millions of dollars. There are millions in it."

To the minds of most practical persons that is the complete answer to any statement about the value of any statistics, but general statistics in particular. It is a subject for ridicule, largely because, inherently, man hates figures. In rebuttal, the advocates of statistics—especially those who are paid for gathering them—maintain that the backbone of the insurance business is statistics as interpreted by the actuaries. It is maintained that the actuary learns from figures the rate at which people have died in past. From that base he prophesies at what rate the people will die off in future. And it is shown that insurance companies have been successful financial institutions. From that premise it becomes the simple matter of arguing from the known to the unknown. Thus it is said that if the successful insurance companies can do a highly profitable business on figures, any other industry can reach relative financial security by basing its program on figures. That is the argument upon which every statistician sells his services; and upon which most of the government bureaus obtain the appropriations which keep them alive. The total annual cost to the nation of these figures will equal the total wealth of our richest citizen. And the net return, outside the insurance business, will hardly equal the salary of one member of Congress. The reason is that most figures are used improperly. And the reason for their misuse is that one vital distinction has never been taken sufficiently into account.

That distinction is: Even the insurance companies never apply general statistics to any one risk. That is, they will not insure the whole human race at a flat price per person, regardless of age or physical condition, the same as we sell postage stamps at one fixed price. These companies simply can't do it. Instead they examine each person to find his physical condition. Those who are not proved fit are not accepted. Also, they vary the rate of premium charged very nicely with the age of the applicant. Thus the figures of the actuary are not used as the basis for any transaction; they merely supply the basis for rates. The rates thus found are then applied to each particular case, or are not quoted at all. Thus the one industry which seems to thrive on figures makes quite limited and specific use of them.

The coal industry has not yet learned how to make specific use of figures. Therefore it tries to apply general figures to individual cases of financing, production or sale. That is why they lose and why the figures have practically no value.

There is, of course, a definite cash value of figures. That means that any properly constructed and used table of statistics can and will be translated into cash. But the value resides not in the general or industry figures upon which so much emphasis is put these days as in the individual figures for small districts or single companies—with the larger figures as a background. Indeed, any national figures are of so little value that they are valuable principally to those who want to make speeches and write books. Speaking from personal knowledge as a habitual offender in both particulars, this value does not justify the cost.

To illustrate the unreliability of general figures when applied to the business of any individual, an incident from the farms is worth reciting. A nation-wide argument was in progress some years ago as to the effect of the tariff on wool. To justify the tariff the general figures of the world industry were broadcast. They indicated that the tariff had increased the prosperity of the wool-growing farmers. The exact statement should have been that the tariff made it "possible" for wool-growing farmers to do a profitable business. Instead, it was said that wool growing, per se, was profitable. That misled many. At the time an incident came under personal notice. A farmer died, leaving to his two sons identical and adjoining parcels of land. Both sons at once had become wool growers. But in the time that it took the elder to become a bankrupt, the younger became quite wealthy. The difference was that the elder believed and relied upon the general figures. He was convinced that any kind of wool growing was profitable. Therefore he merely grew wool. And he sold it whenever he happened to need money. The other grew the kind of wool which the detailed figures of his section told him brought the best price. He marketed his wool when the reports showed there was the best market.

Even a more striking incident came to notice in the coal fields but recently. It seems that two coal companies were situated almost alike in every way. The two companies started almost dead even as to the amount of acreage controlled, the number of men employed and the amount of coal produced per day and per year. Yet in the length of time that it took one of them to become bankrupt, the other company made a profit which was equal to the loss sustained by the first company. The difference was so striking that the situation called for an extended inquiry. This proved that the first company had based its production and its prices on the general figures of the industry; the second company had measured its growth by the increase of sales reported by its own selling department. One followed the general market; the other followed the law of growth shown by its own books. The latter was the successful company.

Naturally, all such figures as those just given and as those about to be given are far too intimate to be identified, even by implication. The hope is that the point is made clear, even though the natural love of gossip is not satisfied. Just the same, this other set of figures becomes most highly enlightening. It became necessary recently to go into the figures of two districts which were showing rather startling developments—changes in production so at variance with the general rule as to demand attention. (The word "variance" is used to indicate merely demarcation without indicating whether the production rose above or fell below the general performance of the industry.) It is enough to say that the percentage of variance in each case was almost exactly the same. And it was easily three times the variance shown by the trend of the industry as a whole. One of these fields by that process became all but a bankrupt; the other profited to a most satisfactory extent. The contrast was so sharp as to challenge attention and to demand a painstaking inquiry into the cause. This disclosed that one of these districts—the one which lost—was governed by rumor and surmise only. It followed what it believed to be the general drift. It picked its impressions "out of the air." It followed an unintelligent "hunch." The other district—the one which prospered—had spent a considerable sum of money to inform itself as to exactly what was going on and as to what was

in prospect. It then had cut its garment to fit the cloth. It paid a bigger dividend on the cost of this set of facts than it had ever paid on any money spent for land, plant or equipment or all of them put together.

By these incidents the distinction is beginning to become quite clear. General statistics are not applicable to individual business, any more than the figures of population published by the Bureau of the Census which tell any man how many children he ought to try to raise. He is not governed by the size of the average of family for the nation but by the condition of his purse and the health of his wife.

But, to gravitate to specific details, the general statistics—unless intelligently compiled—are apt to be wholly misleading. That is to say, if anyone will study the figures of coal production for any period from 20 to 100 years he will be impressed by the fact that the coal industry has pursued a course comparable only to the track of a roller coaster. It rises to dizzy heights one year and drops into a trough the next. If one were to follow the figures of one year he might conclude that he was justified in expanding output to the limit. But if he should follow the figures for the next year he might as readily conclude that he should drop out of the business and kiss his investment a fond farewell. Statistics for individual years—in coal or anything else—would lead anyone to believe that all industry is erratic to the point of insanity or is suffering from intermittent chills and fever. It would seem absolutely impossible to plot a rate of growth upon which anyone could depend.

However, if the same figures are restated in terms of five-year averages and if the column representing these five years averages is studied, it is found that the coal business for the nation as a whole has shown a steady growth from year to year—that the rate of growth has in recent years been 4 percent per annum, compounded. Thus through good times and bad and through periods of boom and depression the tonnage consumption of coal per annum by the nation has been steadily climbing.

This figure proves, upon close examination, to be of only the broadest possible interest to the individual and no guide whatever to his investment, his prices or his production program. This is indicated by one extreme set of figures—disguised so as not to disclose their identity—which comes out of a detailed study. While the nation was progressing at the rate of 4 percent per annum, compounded, one of the states was increasing at the rate of 6 percent, one district within that state was increasing at the rate of 10 percent per annum, and one company in the last indicated district was increasing its business at the rate of 15 percent per annum.

Obviously, the state which gained 6 percent, the district which gained 10 percent, and the company which gained 15 percent would not have been safe to have followed the national figures.

Figures have, therefore, a cash value. But, clearly, the only figures which are worth anything are those which apply close at home. And the closer the application the greater the value.

MINE SAFETY CODES

STANDARDIZATION work on mining projects is going forward with increased activity under the procedure of the American Engineering Standards Committee. At the last meeting of the Mining Standardization Correlating Committee some 12 possible coal-mining codes came up for extensive discussion. Immediate work on four codes was finally recommended to the A. E. S. C. and sponsorships were assigned by them. The scopes and sponsors for these codes are as follows:

Code for Rock Dusting

Scope: Materials and their preparation for rock dusting mines; methods of applying the dust; methods of inspection and renewal.

Recommended sponsor: American Institute of Mining and Metallurgical Engineers.

Code for Use of Explosives in Coal Mines

Scope: Suitability of types of explosives for use in mines; handling of explosives in and around mines, and their transportation to and handling at the face; methods and appliances for charging and firing, including inspection.

Recommended sponsor: Mine Inspectors' Institute of America.

Safety in Mine Transportation

Scope: Safety provisions for transportation, underground, above ground at the mine, and haulage on slope or incline into the mine; motor haulage, animal haulage, mechanical haulage, haulage by hand; signals and provisions for safety in construction, tracks, cars, clearances and loads; and operating rules.

Recommended sponsor: The American Mining Congress.

Mine Illumination

Scope: Protection against hazards of different classes of lights used underground in coal mines, including inspection, charging, transporting and working with lamps; also the use of lamps in testing for gas.

Recommended sponsor: Bureau of Mines.

These new projects deal primarily with safety and were decided upon after consideration of the general subject extending over more than a year. Some engineers had recommended the formulation of "a model basic coal-mining law." After the thorough study given the subject the Correlating Committee unanimously agreed that such an undertaking was undesirable, but that it was desirable to undertake the preparation of a few simple codes as a guide to mining industry, and which would also serve as a guide in impending legislation. The formulation of each of these codes will be in the hands of a sectional committee, made up of representatives of all the organizations interested in the particular subject.

Considerable progress has already been made on the rock-dusting code, and it was discussed at the February meeting of the American Institute of Mining and Metallurgical Engineers.

The Correlating Committee is also being enlarged to include representatives of the following organizations, which increases the number of organizations so represented to 11: American Association for Labor Legislation, Coal Mining Institute of America, National Coal Association, United States Department of Labor.

One of the main functions of this committee is the coordination of the work on the various mining projects going forward under the procedure of the A. E. S. C. In addition to those mentioned above there are:

Electric Mine Lamps, Permissible Portable.

Safety Rules for Installing and Using Electrical Equipment in Coal Mines.

Storage Battery Locomotives for Use in Gaseous Mines.

Specifications for the Testing and Use of Explosives.

Screening of Ores.

Drainage of Coal Mines.

Underground Transportation in Coal Mines.

Ventilation of Coal Mines.

Ventilation of Metal Mines.

In an address before the National Conference on inheritance and estate taxation, Assistant Secretary of the Treasury Dewey dwelt on the necessity of providing capital for industry.

"Without capital," he said, "mining or other industries cannot begin, much less continue." He said that in taxing, the sources from which revenue is derived, must not be destroyed.

TIMBER PRESERVATION AT THE UNITED VERDE EXTENSION MINING COMPANY

An Outline Of Experiments With Wood Preservative In Treating Mine Timbers—There Has Been Some Difference Of Opinion As To The Value Of The Various Chemicals On The Market For Wood Preserving—This Article Attempts To Show The Results Of Experiments With One Chemical Only

By Roy H. Marks

WHILE tests of timber preservation at the United Verde Extension Mining Co. are mainly experimental and have been in effect a comparatively short time, some idea can be gained from the advantages secured from this preservative to date.

We first started experimenting with Ac-Zol in 1922. The purpose of the first experiments was to treat lagging and raise timbers only. This first timber was placed in the return air courses of the mine where the life of timber is comparatively short. In these tests untreated timber was placed adjacent to Ac-Zolated timber to get comparative results.

Other preservatives had been tried but failed to give the desired results.

The method of treatment given was the open-tang immersion or steeping treatment. Experiments were conducted to determine the most practical time period of immersion. The 48-hour period was adopted after experimenting with periods from 24 to 96 hours. At the start of these tests, time was a factor and the 48-hour period suited our needs. Later the timbers were subjected to 96 hours. This was done as follows: After the timber had been in the solution 48 hours it was removed and allowed to dry, and when sufficiently dry it was given an additional 48 hours' soaking. This method of treatment has proven the best. The tank used for treating the timber was small and that factor accounted for the time period being cut down on the first tests. All timber treated was sawed Oregon and native pine. The Oregon pine was thoroughly seasoned and a fairly good penetration was secured. The native Arizona pine contains considerable sap and is not seasoned, so the penetration was not so good on this timber.

In these tests the 24-hour treatment has proven to have been too short, as the timber so treated at the present time shows some fungus growth and a slight decay, while the timbers given the longer or 48 and 96 hour treatment show no fungus growth (except where bruised in placing) and are perfectly sound. Comparative untreated lagging shows considerable fungus growth and decay.

Ac-Zol is an invention of a Belgian chemist. It is a mixture of copper, zinc, ammonia and phenol produced in a soluble solution. All the ingredients which go to compound Ac-Zol have been used in wood preserving. Copper and zinc in their different forms have been used for some time. Phenol is the essential principle of creosote, which is better known than any other wood preservative.

Decayed Timbers Giving Way in a Mine on the Vermillion Iron Range, Minnesota

The essential principle in which the value of Ac-Zol is found is in the fixing of the insoluble salts of copper and zinc in the wood by ammonia with the addition of phenic acid. The metallic salts are used in the form of oxides.

The phenols form ammoniacal compounds that prevent the alkali from being transformed into nitrous and nitric acids, and destroy the germs of these ferments as soon as they enter the wood through any cause or grow in the heart of the vegetable matter. Phenic acid being a powerful antiseptic, besides phenic acid not existing except in the form of a combination with oxides, it does not emit any odor after the drying of the wood, as any excess tends to volatilize in the course of this operation.

Ac-Zol greatly increases the resistant power of the wood to compression, as it combines with the vegetable elements (albumen, cellulos, pectic matter, etc.) to form sort of a binder composed of insoluble, metallic oxides which is hardened to a cement, and closely unites the vegetable fibers of the wood. The great strength of the antiseptic entering into its composition absolutely prevents any decomposition from taking place in the wood in which it is injected. Owing to the ammonia in the mixture, it easily enters the wood, dissolving pectic and albuminoid substances.

Ac-Zol differs from most wood preservatives owing to the fact that it forms an insoluble antiseptic in the wood which solvents fail to wash out. The double salts of the heavy metals and ammonia contained in Ac-Zol help to render wood noninflammable so long as the salts have not been volatalized by high temperatures. Wood treated with Ac-Zol is perfectly clean and dry and gives off no odor. Except for a slight darkening, the treated wood is unchanged in appearance and can be painted or worked without difficulty. There is nothing in the material that would injure the hands and the clothing of the workmen handling it. Ac-Zol is sold in a concentrated form and for most purposes it is used in a 6 percent solution (that is, 6 parts of the concentrated material is diluted with 94 parts water to obtain the proper strength for the treating fluid).

Kind of Timber Used

The kind of timber used in the mine at present is Oregon and native Arizona pine. Of this timber 80 percent consists of Oregon and the balance, or 20 percent, native pine. Native pine is used where no great compressive strength is required and where the life of the workings is short lived.

The bulk of the timber treated with Ac-Zol was Oregon, although some native pine was used. The timber was treated with Ac-Zol and was for use in the return air courses of the mine where the life of timber is comparatively short. With this object in view a great deal of sawed lagging was treated, as this grade of timber is replaced more often than any other. We have several experimental concrete sets in use and part of

this lagging was intended for use with these sets.

Method of Treatment

The open-tank method of treatment was used. This consisted of an immersion in 6 percent solution of Ac-Zol. For this purpose a wooden vat was constructed, the dimensions of which were: Length, 15 feet; width, 8 feet; depth, 3 feet. This vat was capable of treating 1,500 to 2,000 board feet of timber at a time. The length of treatment given was 48 hours. This was afterwards increased to 96 hours. Timbers were unloaded from mine timber trucks and stacked in the treatment vat. Spaces of ¼ to ½ inch were left between each stick of timber and on the bottom of each tier a grating of 2-inch lagging was placed. This was done to expose every face of the timber to action of the solution and insure an even penetration.

The timber in the vat was held in place by stringers placed across the top. This was done to prevent the timber being treated from floating above the treating solution. The Ac-Zol solution used for this treatment consisted of 6 parts of the concentrated solution diluted in 94 parts water. This diluted or treating solution was stored in two 800-gallon tanks and flowed by gravity to the treatment vat. After treatment, the unused solution was pumped out from the bottom of the treating vat back to the storage tanks. Timber on being moved was allowed to dry thoroughly before being sent into the mine. The placing of timber in treating vat and the unloading of same was done by hand, Mexican labor being employed. The cost of treatment was as follows:

	1,000 bd. ft.
Labor handling	$1.18
Ac-Zol	4.14
Miscellaneous	.03
	$5.35

Ac-Zol is manufactured by Zinsser & Company of Hastings-on-Hudson, New York.

The concentrated material is shipped in iron drums and costs $1.25 per gallon f. o. b. Hastings. It does not attack iron but will affect brass fittings if they are left in contact with the concentrated solution very long.

Results of Experiments with Ac-Zol

To date we have treated a total of 58,000 board feet. The timber treated was sawed Oregon and native pine, which consisted of lagging, drift sets, shaft timbers, ladders and raised cribbing. To treat this amount of timber it required 150 gallons of the concentrated Ac-Zol solution, or 2.58 gallons per 1,000 board feet.

For the sake of abbreviation, timber is classified under four headings in these tests. Sound, fungus growth and slight decay, partial decay, and decay.

Sound: Timber is in perfect condition. Shows no signs of decay or fungus growth.

Fungus growth and slight decay: Timbers show spores of fungi and superficial decay.

Partial decay: Showing advanced decay but still serviceable.

Decay: No longer capable of giving service.

Drift A. Return air course. Volume of air feet per minute, 5.48 percent. Humidity, 96. Kind of timber used: Oregon pine 2-inch lagging and Oregon pine 10 x 10-inch drift posts and caps. Date placed, September, 1922. Inspected, August, 1924.

The treated lagging was given a 36-hour immersion and the larger timber 48 hours.

Drift B. Return air course. Volume of air per minute, 4,200. Humidity, 96 percent. Timber used: Oregon pine 2-inch lagging and 10 x 10-inch drift sets, 10 x 10-inch posts and caps. Number of pieces, 260. Date placed, February, 1923. Inspected, August, 1924.

The treated lagging where it shows fungus growth and slight decay had been

Drift A

	Sound Percent	Fungus, slight decay Percent	Partial decay Percent	Total decay Percent	Remarks
Untreated	69.8	10.2	12.0	8.0	Lagging
Treated	95.8	3.4	0.8	...	Lagging
Untreated	40.0	30.0	15.6	14.4	Fosts and caps
Treated	100.0	...	...	...	Fosts and caps

Drift B

	Sound Percent	Fungus, slight decay Percent	Partial decay Percent	Total decay Percent	Remarks
Untreated	69.1	6.6	11.0	13.3	Lagging
Treated	89.8	5.6	4.6	...	Lagging, 24-hr. treatment
Untreated	68.5	19.0	12.5	...	Posts and caps
Treated	99.7	0.3	...	...	Posts and caps, 48-hr. treatment

Drift C

	Sound Percent	Fungus, slight decay Percent	Partial decay Percent	Total decay Percent	Remarks
Untreated	45.0	10.5	26.3	18.3	Lagging
Treated	97.9	2.1	...	...	48-hr. treatment
Treated	100.0	...	...	...	60-hr. treatment

Drift D

	Sound Percent	Fungus, slight decay Percent	Partial decay Percent	Total decay Percent	Remarks
Untreated	56.8	21.2	13.7	8.3	Posts, caps and lagging
Treated	92.0	7.0	...	...	Lagging, 24-hr. treatment
Treated	99.0	1.0	...	...	Lagging, 48-hr. treatment

Raise B

	Sound Percent	Fungus, slight decay Percent	Partial decay Percent	Total decay Percent	Remarks
No treatment	35.0	22.8	35.0	7.0	10 x 10-inch shaft timbers
Treated	100.0	...	...	...	48 and 60 hr. treatment

Raise C

	Sound Percent	Fungus, slight decay Percent	Partial decay Percent	Total decay Percent	Remarks
No treatment	59.0	26.0	7.4	6.5	Oregon pine
Treated	98.2	1.8	...	...	Oregon pine
Treated	90.0	8.6	1.4	...	Native pine
No treatment	15.0	42.0	35.0	8.0	Native pine

bruised in handling and the fungi shows at these points only.

Drift C. Return air course. Volume of air feet per minute, 4.6. Humidity, 96 percent. Timber used: Oregon pine 2-inch lagging. Number of pieces, 185. Date placed, September, 1922. Inspected, August, 1924.

Drift D. Dead end. Very little air moving. Humidity, 100 percent. Timber used: Oregon pine 2-inch lagging and 10 x 10-inch drift posts. Date placed, December, 1922. Inspected, August, 1924.

The pieces showing fungus in the 48-hour treatment had been bruised and one piece had been split. The fungus growth showed at these points only.

Raise A. Return air course. Volume of air per foot per minute, 76. Humidity, 100 percent. Timber used: 4-inch Oregon pine cribbing. Number of pieces in service, 528. Date placed in service, January and February, 1923. Inspected, August, 1924.

This cribbing was given 48-hour treatment and appears perfectly sound. Shows no decay or fungus growth. Untreated posts placed at the collar of raise are starting to show signs of decay.

Raise B. Return air course. Volume air per minute, 2,500. Humidity, 96 percent. Timber used: Oregon pine 3-inch cribbing. Date placed, December, 1922, and January, 1923. Inspected, August, 1924.

Approximately two-thirds of the treated timber is partially wet. But the dry section is still in perfect condition and the shaft timbers above this section have considerable fungus growth and are partly decayed.

Raise C. Return air course. Volume of air feet per minute, 3,800. Humidity, 100 percent. Timber used: Oregon and native pine 3 and 4 inch cribbing. Placed in service, November, 1922. Inspected, July, 1924. This timber was given 48-hour immersion.

Winze D. Air course. Volume of air feet per minute, 18.383. Humidity, 95 percent. Timber used: Oregon pine 10 x 10-inch shaft sets and 2-inch lagging. All timber treated. Placed in service, May and June, 1923. Inspected, August, 1924.

Timbers were given two 48-hour periods of immersion in the Ac-Zol solution. The timbers in this winze have not been in service a sufficient length of time to arrive at any definite conclusion of the merits of the longer treatment.

The manufacturers of Ac-Zol recommend that oil be poured on the top of diluted Ac-Zol solution when treating wood by the immersion method. This oil forms a light film over the top of the solution and is done to prevent the ammonia in the solution from volatilizing while the wood is being treated. This was not done in these tests as we were not informed of the advantage claimed, and this probably accounts for some of the Ac-Zolated mine timbers showing partial decay, due to some of the ammonia volatilizing while the wood was still in the solution as the ammonia in this preservative acts as a carrier of the salts of copper and zinc and assists in the penetration of the wood.

Ac-Zol has been used very successfully in Europe, principally by the railroads and coal mines in the treatment of ties and mine timber. Testimonials from Belgium railroads and mines indicate that ties and mine props impregnated with Ac-Zol have been given an increase in life from five to ten years.

At the present time the results of our tests are far from complete, still enough information can be secured to demonstrate the value of Ac-Zol as a wood preservative.

TREATING MINE TIMBERS

A Discussion Of Mr. Marks' Paper By W. V. De Camp, General Superintendent, United Verde Copper Co.; Geo. M. Hunt, Forest Products Laboratory; Dudley F. Holtman, National Lumber Manufacturing Association, And Arthur B. Foote, The North Star Mines

Statement by W. V. De Camp

1. IN the consideration of preservatives, the life of the mine or the life of the opening to be timbered, rate of decay and cost of timber at the present time, combined with the strength of the timber, are the controlling factors.

2. The rate of decay depends in the same way on other factors, such as ventilation and humidity, or, particularly, variable humidity.

3. Ventilation should be the first consideration, or, in other words, to eliminate at its source the need for preservation of timber.

4. The possibility of elimination of timber by the adoption of gunite should be given careful consideration. Many mines have found that they can hold ground by the use of gunite which they previously considered it necessary to timber, and in fact at the United Verde mine we have even in some cases eliminated the necessity of square set mining methods by working ore bodies with shrinkage methods and later guniting the backs and sides of the stope to permit retreat.

5. Fire resistance qualities should be an important part of any preservative, since if it is necessary to keep drifts open for a great many years the fire hazard is directly proportional to the life of said drift.

6. Preservatives should be applied at the mills supplying timber or at centrally located plants, if possible, since the capacity of plants can be made greater and the more reliable pressure methods of preservation adopted.

In answer to the recommendations contained in the Third Standardization Bulletin, page 177, I beg to present the following statements:

1. The need for timber preservation in mines is a fact which needs no further discussion, but should depend upon the consideration of some of the statements previously recorded herein.

2. Coal-tar creosote, zinc chloride and Ac-zol are all satisfactory preservatives. The latter I consider best suited for underground use since it is not water soluble, has no odor, does not affect skin or eyes and, in a measure, is fire-resisting.

3. Pressure methods are best suited for applying preservatives, and again it becomes merely a question of the cost of the method over immersion methods and increased life resulting therefrom.

4. Timber should be seasoned at the mills, since the tendency for most mines is to carry not more than 60 or 90 days' stock.

5. The securing of sound timber depends to a large degree on contract relations with lumber mills, as there will always be a tendency to send inferior material to the mines, particularly when the demand for clear finished lumber of the better grades is great.

6. Prompt shipment I do not consider advisable, since it implies shipping green material with excessive freight rates due to contained moisture.

7. Peeling timber no doubt improves the life, but again we should consider the time an opening is to be used, and in top-slice work I would say that there was no need for peeling timber. In general, we have found it cheaper to eliminate the use of round peeled timber, and instead we contract with the mills for what is known as "rough-squared." This is regular run of timber selected at the head of the mill by the sawyer who rough squares same, or in some cases completely squares the timber. This leaves the mill considerable material that can be used for firewood, lath, etc. The timber so squared is slightly weaker than the round, but is far more easily handled.

8. Green timber, it is true, deteriorates

rapidly, due to fungus growth, but there are some places where such timber is far more satisfactory than well-seasoned timber, and I refer particularly to the lining of ore chutes or any place where timber receives excessive wear due to passing rock or dirt.

9. One of the principal factors controlling the use of timber is freight rates and location of mines with respect to timber supply. To the man who has a local supply within cutting distance of the shaft collar it would be very difficult to interest him in the use of preservatives. Other mines are forced, due to haul, to use certain classes of timber.

Statement by George M. Hunt

MR. MARKS' paper is a valuable addition to the work of the Mine Timber Section of the Standardization Division. He has been able to show that an appreciable increase in life may be gained by even such a cheap and superficial treatment as soaking in cold solution. Quite properly, he does not attempt a forecast of the difference in average life between the treated and the untreated timbers, because the observations have not been continued over a long enough period; but the difference in the condition of the treated and untreated timber at the time of inspection is markedly in favor of the treated. The results of future inspections will be of great interest, and it is to be hoped that Mr. Marks will report them each year until the experiment is finished.

The results of this experiment are, of course, not surprising. They are merely new evidence in support of the well-known fact that wood preservatives make timber last longer under conditions which favor decay. The preservative used happened to be Ac-Zol. It might as well have been any other one of a number of effective materials used for preserving wood. A considerable number are known which wide experience and research have demonstrated to possess good protective qualities when properly used. It is not necessary, therefore, for a mining company to experiment for years to find the ideal wood preservative before taking action. It should be a very simple matter to select one and put it to immediate use by a well-known process. At the same time, experiments could be started with other preservatives and methods, if desired, with a view to making improvements in the future; but during the 5 or 10 years required for the experiments to bear fruit sufficient for an intelligent conclusion the mine would be reaping the benefits of the use of treated timber.

The above statements are not made in a spirit of hostile criticism of the paper. The writer knows from conversation with Mr. Marks that he appreciates the value of preservatives and is in agreement with the writer as to the desirability of prompt action in all cases of exposure of wood to decay. The present remarks are made to emphasize the thought that mine timber preservation is a thing to be undertaken today rather than something to be looked into and experimented with at some indefinite time in the future. As a matter of fact, the timber and labor unnecessarily wasted through decay while waiting for the satisfactory conclusion of some new series of experiments will as a rule pay for a first-class treating plant of the best type and leave money over to run it.

Our timber supply is dwindling so rapidly that a real timber famine is to be expected much sooner than most of us realize. Mining operators, in company with all other timber users, owe it to themselves as a matter of business, and to the nation as a matter of patriotism, to do all they can to reduce timber waste. Wood preservation offers a unique opportunity to serve the public by saving money for oneself.

Statement by Dudley F. Holtman

UPON investigation I find that Ac-Zol has been known in this country for several years, but to my knowledge it has not been used to any great extent. The Forest Products Laboratory at Madison has a number of ties in a test track which are treated with Ac-Zol, but it will be a long time before they can tell how the durability of these ties compares with the durability of zinc-treated or creosoted ties.

From the evidence in Mr. Marks' paper and from other sources there can be little doubt that Ac-Zol is effective to a considerable extent in protecting wood from decay, but the question which cannot now be settled and will not be settled for many years, perhaps, is whether Ac-Zol is as good as zinc chloride. If it is not appreciably better than zinc chloride it will be hard to justify the higher price charged for it. Since there are no laboratory tests which can be relied upon to give an accurate comparison between the effectiveness of preservatives under service conditions, the only way we can get the desired comparison between Ac-Zol and the standard preservatives is by watching them for a period of years.

I understand that in 1912 or 1913 a number of white-fir poles were treated at San Francisco with Ac-Zol, using the Boucherie process. The poles were set in a telephone line, and after six years of service they were examined and practically all poles had decayed and been replaced. The Ac-Zol ruined all of the brass fittings.

The results of service tests of Mr. Marks' report indicate that some of the material treated began to show signs of decay after a few months' service. If properly treated with zinc chloride or creosote these timbers would have remained sound for many years.

I understand that Ac-Zol has not been especially successful in Europe, although it is used to some extent in Belgium and Roumania when creosote is not available.

I appreciate the value of experimenting with new materials in the wood-preservation field, but I feel that the mining industry in America need not await the results of experimentation, since there are a number of wood preservatives on the market in this country, notably creosote, which service test records have shown conclusively preserve wood from decay and extend the service life of lumber and timber used in constructions where all conditions are favorable for the development of wood-destroying fungi.

I realize that the effect of preservatives on the inflammability of wood is important to the mine operator. While it may be true that freshly creosoted timber is more susceptible to fire than uncresoted timber, freshly creosoted timber need not be used. It should be possible to treat mine timbers and let them dry before putting into use.

We are interested in having wood used properly, and there can be no question but that preservative treatment of lumber used in connection with certain phases of mine operation is necessary in order to assure best results. Satisfactory wood preservatives are obtainable commercially. Their use, with proper maintenance, should increase the service life of lumber in mine structures and reduce depreciation charges to a minimum.

Statement by Arthur B. Foote

IN certain long, timbered incline shafts, where the untreated timbers last only about a year, very good results have been obtained in the matter of preserving the timbers from decay by sprinkling them with water once a day. This was accomplished by means of short lengths of garden hose attached to the column pipe at intervals of about 50 feet, and the man who makes a daily inspection of the shafts sprinkles all the timbers by means of this hose. One man was able to attend to about 2,400 feet of shaft, and very few replacements were necessary during the six or eight years that this system was in use. I have observed, in other places, the same results obtained by attaching garden sprinklers to a water pipe at intervals of about 50 feet and water was supplied to these for a short time every day. The only difficulty with this arrangement seems to be that it is difficult to cover all the timber. There seems to be no doubt that timber can be preserved indefinitely by keeping it thoroughly wet.

MANUFACTURERS' DIVISION HOLDS ANNUAL MEETING

Meeting Elects J. C. Wilson, Ohio Brass Company, Chairman, And Decides To Hold 1925 Equipment And Discussion Of Practical Operating Problems At Cincinnati, May 24-29

THE Manufacturers' Division of the American Mining Congress, comprising a large number of the leading manufacturers of mining machinery and equipment, held its third annual meeting at the Washington office of the organization, Tuesday, January 27. The meeting was a most successful and representative one, manufacturers from all parts of the country attending.

One of the outstanding results of the meeting was the decision to hold the National Exposition of Coal Mine Equipment and Machinery, and the discussion of practical operating problems, at Cincinnati, Ohio, May 25 to 29. General matters of importance to the division were discussed, and the various activities of the past year unanimously approved by the members of the organization.

J. C. Wilson, of the Ohio Brass Company, one of the charter members of the division, was elected as chairman of the Manufacturers' Division for the ensuing year, and H. K. Porter, of the Hyatt Roller Bearing Company, C. L. Herbster, of the Hockensmith Wheel and Mine Car Company, and H. A. Buzby, of the Keystone Lubricating Company, were elected vice chairmen.

The board of governors, as elected, consists of: J. C. Wilson, chairman, Ohio Brass Co., Mansfield, Ohio; N. S. Greensfelder, honorary chairman, Hercules Powder Co., Wilmington, Del.; H. K. Porter, vice chairman, Hyatt Roller Bearing Co., Harrison, N. J.; C. L. Herbster, vice chairman, Hockensmith Wheel and Mine Car Co., Penn, Pa.; H. A. Buzby, vice chairman, Keystone Lubricating Co., Philadelphia, Pa.; H. F. Reck, Streeter-Amet Weighing and Recording Co., Chicago, Ill.; Wm. Whaley, Myers-Whaley Co., Knoxville, Tenn.; L. W. Shugg, General Electric Co., Schenectady, N. Y.; Raymond Mancha, Mancha Storage Battery Locomotive Co., 1900 S. Kingshighway, St. Louis, Mo.; M. P. Reynolds, W. S. Tyler Co., Cleveland, Ohio; F. J. Maple, John A. Roebling's Sons Co., Trenton, N. J.; W. C. Appleby, Southern Wheel Co., St. Louis, Mo.

N. S. Greensfelder, who has rendered such splendid service as chairman of the Manufacturers' Division during the past two years, was elected honorary chairman of the division, thereby establishing the custom whereby the incoming officer may have the advantage and counsel of the previous chairman in connection with the affairs of the division.

All of the members expressed enthusiasm concerning the work of the division, feeling that it affords a splendid medium for developing a closer contact between the manufacturers of mine equipment and machinery and the national organization representing the operating end of the mining industry.

The present membership of the division includes: N. S. Greensfelder, Hercules Powder Co., Wilmington, Del.; J. C. Wilson, Ohio Brass Co., Mansfield, Ohio; H. K. Porter, Hyatt Roller Bearing Co., Harrison, N. J.; C. L. Herbster, Hockensmith Wheel and Mine Car Co., Penn, Pa.; H. A. Buzby, Keystone Lubricating Co., Philadelphia, Pa.; G. E. Stringfellow, Edison Storage Battery Co., Orange, N. J.; L. W. Shugg, General Electric Co., Schenectady, N. Y.; E. R. Phillips, Timken Roller Bearing Co., Canton, Ohio; W. A. Whaley, Myers-Whaley Co., Knoxville, Tenn.; A. R. Anderson, Automatic Reclosing Circuit Breaker Co., Columbus, Ohio; Ralph C. Becker, Keystone Cons. Publishing Co., Pittsburgh, Pa.; Duncan Meier, Ludlow-Saylor Co., St. Louis, Mo.; Raymond Mancha, Mancha Storage Battery Locomotive Co., St. Louis, Mo.; H. F. Reck, Streeter-Amet Weighing and Recording Co., Chicago, Ill.; M. P. Reynolds, W. S. Tyler Co., Cleveland, Ohio; W. C. Appleby, Southern Wheel Co., St. Louis, Mo.; F. R. Holmes, Robert Holmes and Bros., Inc., Danville, Ill.; F. L. Morse, Morse Chain Co., Ithaca, N. Y.; C. S. Hurter, E. I. du Pont de Nemours and Co., Inc., Wilmington, Del.; E. R. Heitzman, Central Frog and Switch Co., Cincinnati, Ohio; J. K. Lansdowne, Weir Frog Co., Cincinnati, Ohio; F. J. Maple, John A. Roebling's Sons Co., Trenton, N. J.; W. H. Dawson, Atlas Powder Co., Wilmington, Del.; R. L. Twitchell, Carnegie Steel Co., Pittsburgh, Pa.; Frank C. Mueller, Roberts and Schaefer Co., Wrigley Bldg., Chicago, Ill.

MEETING OF DIRECTORS OF SOUTHERN DIVISION THE AMERICAN MINING CONGRESS

THE annual meeting of the Board of Governors of the Southern Division of the American Mining Congress was held at Birmingham, Alabama, Tutwiler Hotel, on February 17. Mr. Herbert Wilson Smith, Division of Research, and Dr. Henry Mace Payne, Consulting Engineer, both of the American Mining Congress, attended the meeting.

The mineral resources of the South was the chief topic of discussion and was presented by Dr. Payne, who at this time is completing one of the most comprehensive reviews of the natural resources of the South that has ever been published. In commenting upon this important publication, Mr. W. H. Lindsey, Chairman of the Board, said:

"So important is the matter, that the American Mining Congress is anxious to have the publication completely prepared for circulation at an early date. Publication will not only give additional light on the resources of the South, a most wonderful showing, but will go further into the subject, setting forth numerous uses of the various products. It will be a most important publication for the South and for the entire country, though a considerable portion of the contents may have been known before this."

Those composing the board include: W. H. Lindsey, Napier Iron Works, Nashville, Tenn.; J. B. McClary, Yolande Coal and Coke Company, Birmingham, Ala.; Percy D. Berry, Providence Coal Mining Company, Providence, Ky.; Lee Long, Virginia Coal and Coke Company, Dante, Va.; E. L. Hertzog, Cherokee Mining Company, Spartansburg, S. C.; W. S. Peebles, The Paga Mining Company, Cartersville, Ga.; S. J. Ballinger, San Antonio Public Service Company, San Antonio, Texas; H. B. Flowers, New Orleans Public Service, Inc., New Orleans, La.; C. J. Griffith, Arkansas Central Power Company, Little Rock, Ark.; Dr. Joseph Hyde Pratt, Western North Carolina, Inc., Asheville, N. C.; W. H. Smith, secretary-manager, Chamber of Commerce, Laurel, Miss.; C. A. Memminger, (Florida), president Coronet Phosphate Company, Asheville, N. C.; Herbert Wilson Smith, Division of Research, and Dr. H. M. Payne, Consulting Engineer, American Mining Congress, Washington, D. C.

J. B. McClary, member from Alabama, arranged a short trip over the district for the visiting mining men after the meeting.

MINING MAN TO BE NEW GOVERNOR OF ALASKA

George A. Parks, Of Denver, Rose From Ranks—Should Mean Liberalization Of Mining Regulations

LIBERALIZATION of the mining laws in the development of the natural resources of Alaska is expected to follow in the wake of the administration of the newly appointed Governor, George Alexander Parks. Mr. Parks, who is a mining engineer of long experience in the government service, particularly in Alaska, where he has served during the past 16 years, will become Governor of the Far Northwest Territory on June 15, succeeding Governor Scott C. Bone, a former newspaper owner and editor of the National Capital. The viewpoint of the practical miner in the development of sparsely settled parts of Alaska is expected to be taken by Governor Parks in his administration of affairs of that important territory.

Extreme modesty was expressed by Mr. Parks when informed of his appointment late in February. He was engaged in his duties in the General Land Office, where he has been employed since 1909, when informed of his selection by the President. Rushing into the office of his chief, Governor Spry, of Utah, the head of the land service, Mr. Parks exclaimed: "Do you really think I can hold down the job?" "Most assuredly," replied Governor Spry. After acknowledging a shower of congratulations, Mr. Parks returned to his duties.

Mr. Parks has been a resident of Alaska for 16 years and is the first Alaskan citizen ever nominated to be Governor of Alaska.

"Governor Parks is the best-informed man on Alaskan conditions ever named for that office," said an official statement issued by the Interior Department.

He has been in the Alaskan field service of the General Land Office of the Interior Department since 1907, his duties taking him to every part of Alaska in both winter and summer. He began as a government practical miner in Alaska at a salary of $1,320 and worked his way up to the position of Assistant Supervisor of Surveys and Public Lands.

Mining Engineer

Governor Parks graduated from the Colorado School of Mines in 1906 and went to Alaska as a mining engineer for several private mining companies, later being appointed practical miner of the General Land Office in 1909. He then became mineral examiner for the Interior Department, his duties consisting of the examination of homestead and mineral claims. In 1918 he resigned from the government service to enter the Engineering Corps of the Army during the World War. He was commissioned a first lieutenant and promoted to the rank of captain.

At the end of the war, in 1919 Mr. Parks reentered the Alaskan service of the Interior Department, being advanced to the position of Chief of the Field Division of Alaska, having charge of public lands in the territory. He was made superintendent of townsite sales for the Alaska Railroad and had supervision of the disposition of all the townsites along the railroad. He also acted as trustee in the sale of many other government townsites in Alaska.

George A. Parks

In 1924 he was advanced to the post of Assistant Supervisor of Surveys and Public Lands in Alaska, which placed under his control the entire administration of public lands in the territory, including their survey and disposition under the various homesteading and mineral acts of Congress.

His selection by the President to be Governor of Alaska was in recognition of his long and faithful public service in that territory.

SALE OF PUBLIC LANDS DECREASES

ACCORDING to a recent release from the Interior Department, receipts from the disposal of public lands of the United States have fallen off about 85 percent during the last 20 years.

Their tabulation shows that such receipts declined from approximately $8,795,000 during the fiscal year of 1904 to $1,235,000 for the last fiscal year. This represents a decrease of approximately $7,560,000.

The biggest loss in receipts from the disposal of public lands during the last 20 years occurred in cash sales. In 1904, the General Land Office realized approximately $7,445,000 from cash sales on the public domain, while last year the amount received from cash sales was only $551,000. Fees and commissions on public lands disposition 20 years ago was $1,349,990. During the fiscal year of 1924 these fees and commissions declined to $684,650.

The tabulation also shows that notwithstanding the fact that the receipts from the disposal of public lands have fallen off approximately 85 percent during the last 20 years, the number of local land offices maintained by the Government throughout the country has been reduced only 27½ percent. In the fiscal year 1904 the total number of local land offices was 116. During the last fiscal year there were 84 local land offices, or a reduction of 32.

Responsibility for the heavy loss in the public land business of the Government is due to the fact that practically all the raw public lands worthy of cultivation and capable of producing a livelihood for a family have already been taken up by homesteaders. The remaining area still the property of the nation, therefore is not attractive for homesteading purposes.

All evidence of this is found in the number of homestead entries filed on the public domain during the last fiscal year as compared with 20 years ago. In 1904 there were 69,175 homestead entries covering a total of 10,171,265 acres of public lands. For the fiscal year of 1924, the number of homestead entries had dwindled to 13,886 covering 3,873,172 acres.

The approximate area of the present unreserved public domain amounts to 186,000,000 acres not including the Territory of Alaska. This area represents what is left after 100 years or more of picking by hundreds of thousands of pioneers, who have been going West to build homes and to make fortunes for themselves and their families. Some of this remaining land is arid and semi-arid, requiring irrigation before being tenable, while other portions are located on steep mountain slopes which have not even been surveyed. The soil is stony and sandy, making agricultural development an undertaking so expensive and burdensome that a homesteader would not be able to make a living from it.

The Chilcoot Pass

ANECDOTES OF EARLY ALASKAN MINING DAYS

Congressman Tells House Of Romantic Episodes In The Lives Of The Gold Seekers

INTERESTING sidelights on early days of mining in Alaska were given in a speech in the House of Representatives by Representative John E. Rankin, of Mississippi, based on a trip of inspection to Alaska in 1923. Mr. Rankin related one of several interesting stories told by Alaskans of the experiences of the early prospector. He said:

"They tell stories of the gold-rush days. They said there arrived in Fairbanks, one cold winter night back in the old days, an ignorant Swede who had managed by the hardest work to make his way to that place across the country from the Klondike field. He had a large quantity of gold dust he had saved up and was trying to get passage to the sea coast, so he could return home and enjoy it. A couple of gamblers got hold of him, made him drunk, and robbed him of everything he had. In order to give their conduct the color of common honesty they executed a deed to a worthless claim they owned near Fairbanks and stuck it in his pocket, to make it appear that they had sold it to him for the identical amount of gold dust they had taken out of his pockets.

"When he came to himself he was penniless, friendless, and among strangers, with nothing to eat and no place to live. At that time there was a firm doing business at Fairbanks that would furnish food and supplies to anyone who had a claim and was working on it. So, in order to get something to eat, this Swede went out on his claim which he had 'purchased' from those gamblers, and began sinking a shaft. To the surprise of himself and everybody else he struck a rich vein of gold. He sold his claim for $400,000 and then hunted up his gambler 'friends' and gave them $10,000 apiece for their 'kindness' to him when he came to them a stranger and they took him in."

Mr. Rankin referred to an Alaskan character known as "Old Two-step John." Of him Mr. Rankin said:

"He was an old fellow who went up into the Klondike field during the gold-rush days and became rich. He spent $52,000 trying to learn to dance the two-step, from which adventure he acquired the name of 'Two-step John.' In that and similar ways he squandered all his money, and is now, in his old days, living out there on the bank of a little stream, possibly a hundred miles from any other dwelling house, fishing and trapping for a living and searching those mountains and valleys in the hope of striking gold and again becoming independent.

"No doubt the people back in his old home state think he is fabulously wealthy, owning gold mines and skyscrapers in Alaska. And he might say, in the words of Alexander Selkirk, that, with the exception of the railroad, he is 'monarch of all he surveys.'"

Path of Gold Seekers

Referring to experiences of gold seekers in the Klondike, Mr. Rankin said:

"Skagway at one time had a population of 3,000 or more. That was during the gold-rush days, when this was the gateway to the Klondike—a gateway through which many a deluded gold seeker passed, never to return. Here the gold hunters debarked and struggled up the White Pass Canyon or the Chilkoot Fass to Lake Bennett, where they built boats in which they rowed down through the perilous White Horse Rapids out into the Yukon River, and on down to the fabled fields of the Klondike. At that time Representative Miller, Republican, of Washington, who was with us on this trip, was one of the first gold seekers to enter Alaska. He told us of his experiences in the Klondike on that trip, and it was one of the most interesting stories I have listened to.

"As your train climbs and loops and winds its way along the cliffs of this canyon you can look down on the old stone trail over which the gold seekers struggled on their way to the Klondike more than a quarter of a century ago. There are the old rotting bridges, the wrecks of a few decayed cabins, the fading wagon trail, to mark the path along which they trudged in the hope of finding gold.

"You can almost imagine you see them tramping over the frozen ground, toiling up the trail leading to the Klondike. Some of them were killed by falling from those cliffs and being dashed to death on the rocks beneath. They are all gone now, and the Klondike field has been exhausted; but this old stone trail which witnessed their sorrows, their hardships, and their sufferings will ever hold a charm of romantic fascination for the countless thousands who visit that far country to look upon its wonderful scenery in the years to come.

"Skagway has dwindled to where she now has a population of only about 300. Their houses are still standing and still intact. I walked down street after street of vacant houses, both business houses and dwelling houses, and I must say it was about the (*Continued on page* 135)

NEWS OF THE MINING FIELD

A Resume Of The Activities Of The Mining Industry And Items Of Interest In The Field

Suggests Survey Of Illinois Coal Industry

Frank Farrington, president of the United Mine Workers of Illinois, suggests that competent engineers and scientists be engaged to make a survey of the coal industry of Illinois for the purpose of finding ways and means of increasing the consumption of Illinois coal by new methods.

One of the methods suggested was the establishment of giant power plants for the manufacture of light, heat and power in or near the Illinois coal fields.

During the recent conference of the Economic Association the plan suggested by Mr. Farrington was discussed by experts, and while none of these men had a panacea to offer for all the ills of the coal industry, all agreed that whatever is done must be preceded by a scientific survey of the industry.

Large Pa. Coal Mine To Shut Down

The Rochester and Pittsburgh Coal and Iron Company, one of the oldest and largest coal companies in central Pennsylvania, has announced that it will close all its mines until April 1, 1927, or sell or lease such mines as it deems wise. The announcement was made in a lengthy statement to the public reviewing the history and development of the company and enumerating the unfavorable competitive conditions which make it impossible to continue the operation of the mines.

"This company has labored since April 1, the date of the Jacksonville agreement, to secure business and retain its former position in the coal industry," the statement says. "It has been able to obtain only about one-fifth of its normal output, and on the quantity thus obtained its losses ran into immense sums. This was due to the fact that every pound of coal mined by these companies was paid for on the wage rates provided in the Jacksonville agreement."

Officials declare that all efforts toward modification of the Jacksonville agreement have been futile.

"We have reviewed by the hour with these officials (District No. 2, United Mine Workers), and discussed every angle of the predicament. * * * We have pointed out the undisputed fact that we modified our agreement with the United Mine Workers, District No. 2, five different times by increasing wages during the life and term of our contract when we found a condition which did not give the employees a fair living wage."

Steel Mills To Give Employment To Unemployed Miners In Indiana

Unemployed coal miners in Indiana, numbering about 17,000, may be transferred to steel mills in the northern part of the state, through plans worked out by the United States Steel Corporation and the chairman of the state industrial board, Dixson H. Bynum.

Great numbers of laborers are being imported into the region bordering the southern shores of Lake Michigan, known as the Calumet, and taking in the towns of Hammond, East Chicago and Gary. With the opening of a tube mill now under construction, 15,000 jobs will be available.

It has been the plan heretofore to import Mexicans for jobs in the mills. Most of the Indiana miners are Americans, according to Mr. Bynum, and the plan would not only solve the steel mill problems but would likewise provide men of character and stability for the jobs in the mills.

Northeast Kentucky Coal Association Officers

At the annual meeting of the Northeast Kentucky Coal Association held in Ashland the latter part of January, the following officers were elected: Cadwalader Jones, of the By-Products Coal Company, Wheelwright, Ky., president; J. J. Fluck, of the Elkhorn Piney Mining Company, Weeksburg, Ky., first vice-president; C. H. Beidenmiller, of the Glogora Coal Company, Huntington, W. Va., second vice-president; N. M. White, Sr., of the Colonial Coal & Coke Co., Frestonburg, Ky., treasurer. The above four officers, together with the out-going president, C. W. Connor, of the Elkhorn & Shelby Creek Coal Co., and Messrs. R. C. Thomas and James P. Salisbury, constitute the executive committee. C. J. Neekamp remains as secretary and F. E. Durham as statistician.

Utah Copper Sues To Recover Copper From Refuse

The Utah Copper Company has brought suit against the Montana-Bingham Mining Company, to establish its right to recover copper from water that percolates through refuse copper-bearing rock, dumped by the Utah Copper Company on ground leased from the Montana-Bingham Company. It also seeks the right to have certain ground owned by the latter company condemned for the purpose of erecting vats on it, to recover the copper contained in this water.

By precipitation processes, the water which has percolated through the dump can be made to yield about 14 pounds of copper per 1,000 gallons.

Montana-Bingham contends that the water and all its contents belong to it, and denies the right of the other company to drive a tunnel in the dump and construct a pipeline as would be necessary. Approximately 100,000,000 pounds of copper is contained in the dump, a good proportion of which can be recovered.

A Department Of Mines In California

A bill creating a Department of Mines has been introduced in the California legislature by Representative H. E. Dillinger.

"To The Nightingale Of The Rockies"

Somewhere in the mountains of Colorado a lasting monument is to be carved, immortalizing the "nightingale of the Rockies," faithful companion and unflagging partner of the prospector—the patient burro.

A campaign to raise $25,000 has been started on the initiative of William C. Russell and Allen L. Burris, mining engineers of Denver. At the annual "sow-belly dinner" of the Colorado Metal Mining Association Mr. Russell concluded a tribute to the burro with this suggestion. A committee of three has been appointed to further the project.

Miners' Wages Increased In Coeur D'Alene District

Mine workers in the Coeur D'Alene district of Idaho have been given a 50c increase in wages. The increase, affecting about 3,000 men, was made by the large producers of lead, silver and zinc ores, including the Hecla, the Federal, Tamarack & Custer, Callahan Zinc-Lead, Gold Hunter, Bunker Hill and Sullivan and other companies. The new wage scale will be $5.50 a day for muckers, $6 for miners and $6.75 for timbermen. This adds about $500,000 to the annual payroll, bringing it to about $6,000,000.

Mine employees of this region receive the highest wages paid in Western states, according to a compilation of the Colorado Metal Mining Association.

Ore Shipment From Cuyuna Range

The Cuyuna Range shipped 1,282,129 tons of iron ore in 1924. The largest shipper was the Armour No. 2 mine of the Inland Steel Company, with 267,812 tons.

Mineral Tax Proposed In Idaho

A 4 percent tax on gross value of mine production is proposed in a bill introduced in the Idaho legislature by Senator H. Reincke, of Canyon County. Mining companies would be required to keep a record of ores produced and sold each day in the year. The records would be open to assessors who would make the valuations.

It is further provided that "every person, corporation or association in the state producing any of the ores mentioned, on or before February 1, 1926, and annually thereafter, shall file with the State Board of Equalization, under oath, a true record of ore produced covering the preceding calendar year and shall furnish to said board such information touching upon the production of any such ores as the board shall require."

Open Lamp Hearing In Utah

The Utah Industrial Commission has been asked by the Union Carbide Sales Company to modify its order on the lighting of coal mines. The present order, which has been in effect since last April, requires that men in any of the largest coal mines shall be equipped with electric lamps approved by the United States Bureau of Mines.

The Carbide Company urges that the chief mining inspector be empowered to prescribe the kind of lighting that should be used in any coal mine, dependent upon the conditions existing in that mine. They point out that open lamps have proven safe in the largest coal producing areas of the country.

Hearing was set for February 26 in Salt Lake City. At the request of the Carbide Company, George S. Rice, Chief Mining Engineer of the United States Bureau of Mines, will be present.

A New Fuel Organization

An association has just been launched in Pittsburgh, Pa., known as the National Association of Superfuel and Amalgam Producers. The purpose of the association will be to promote the interests of this new industry, use cooperative methods and ideas that will be helpful to the industry in a general way.

The following officers were elected for the year 1925:

President—M. J. McQuade, Pittsburgh, Pa., president West Virginia Superfuel Co., Moundsville, W. Va.; president Ben Franklin Coal Co., Moundsville, W. Va.; president Superfuel Company of Wheeling, Wheeling, W. Va.

Vice-President—A. B. Lansberry, Clearfield, Pa., Coal and Superfuel Operator of Clearfield, Pa.

Vice-President—L. O. Haskins, Detroit, Mich., president Detroit Amalgam Fuel Co., Detroit, Mich.

Vice-President—Sidney C. Smith, Wheeling, W. Va., president Wheeling Trent Corp., Wheeling, W. Va.

Secretary—Arthur Day, Pittsburgh, Pa., president Pittsburgh Trent Corp., Pittsburgh, Pa.

Treasurer—R. E. Bowie, Wheeling, W. Va., Hazlett & Co., Wheeling, W. Va.

New Miners' Organization In West Va.

The Mine Workers' Association of West Virginia, recently organized, is steadily shaping into form under the direction of Thomas Cairns, president. A charter has been issued and meetings are being held in various mining districts.

President Cairns states that: "We will have nothing to hide, and for that reason we can take the entire public into our confidence. The movement we have started is for the benefit of the people who live in West Virginia as well as the miners and operators." * * * "We are now formulating plans to hold a series of meetings with the miners in the several mining districts and invite them to affiliate with our association * * *."

"When a sufficient number of locals have been organized and charters issued, we will request the coal operators who own the mines where local unions have been formed to meet with the representatives of the miners for the purpose of formulating a wage agreement."

It is reported that Mr. Cairns was at one time affiliated with the United Mine Workers as a West Virginia official. It is also understood that others identified with organizing the association had previously been members of the old union.

Illinois Mines Operate On "Partnership Plan"

Some coal mines in southern Illinois have resumed operations on the partnership plan. Miners in these localities have signed up with the operators to work for what they can get out of it. In some places the men are even going into the mines and pumping and doing general cleanup work without pay, having gotten permission from the union.

The amount they will receive after the mine has been started depends upon the profits of the products marketed.

Havell Appointed Assistant Commissioner, General Land Office

The nomination of Thomas C. Havell to be Assistant Commissioner of the General Land Office of the Interior Department has been sent by the President to the Senate for confirmation.

Mr. Havell has held the post of Chief of the Division of Surveys and Drafting in the General Land Office. He has been in the government service for the last 26 years, working his way up from the ranks until his promotion.

He entered the General Land Office in the year 1899, receiving a temporary appointment in the Division of Surveys. Later he took the civil-service examination and his position was made permanent. For a time he studied civil engineering in the Columbian University and then entered the National University Law School, from which he graduated with a degree of bachelor of law in 1923, being a gold medal student.

In 1922 he was promoted to the position of Acting Assistant Chief of the Division of Surveys of the General Land Office and became Assistant Chief in 1924. During the present year he was made Chief of the Division of Surveys and Drafting.

Commissioner Burke Exonerated

Commissioner of Indian Affairs Charles H. Burke has been completely exonerated of the charge of maladministration of his office in a report submitted to the House of Representatives by the House Subcommittee on Indian Affairs.

After an exhaustive review of the cases, which were the subject of a lengthy investigation by the subcommittee, the charges were referred to as "baseless."

The committee report stated:

"That from a careful examination of the evidence adduced during the hearings there is nothing to sustain any charge of corruption against the Commissioner of Indian Affairs, Charles H. Burke, or any other official or employe of the Indian Bureau or the Interior Department, and that the purpose of the charges was to imply corruption.

EARLY ALASKAN DAYS

(*Continued from page* 133)

most lonesome feeling I have ever experienced. I can truly say that—

I felt like one
Who treads alone
Some banquet hall deserted,
Whose lights are fled,
Whose garlands dead,
And all but he departed.

"But Skagway will come again. When the American people realize what wonderful scenery we have in that country, and how easily accessible it is, Skagway will become the Mecca for the intelligent tourists of the New World."

THE STORY OF COPPER—By Watson Davis, published by the Century Co., N. Y.

FROM the copper hammer of the prehistoric warrior to the latest chemical by-products and alloys of that metal, in 17 chapters, with 55 illustrations, is the practical, interesting and informative volume listed above.

Not only is the style pleasing, but the diversity of treatment makes the book as fascinating to the student in a young ladies' seminary as to a miner engaged in producing the metal; as useful to the prospector as it is to the metallurgist; and as complete a reference work on copper as an encyclopaedia devoted to the subject.

The use of copper in electricity and in the arts, and its alloys—brass and bronze—the part it plays in both peace and war, are graphically described. The geology of copper deposits is clearly written for lay comprehension and the processes of enrichment and leaching assume a present-day reality.

After outlining the winning of the metal from the earth, the author describes its commercial transformation, its idiosyncracies, and chemistry. He reminds the reader that "so extensive are the alloys of which copper is a part, it takes 30 pages of the 1922 Annual Volume of the American Society for Testing Materials to list their names and compositions." These are discussed as "Copper's Junior Partners."

The volume closes with 16 pages of bibliography and a well-prepared index, which make it worthy of a place on any library table.

Engineers of the Consolidated Fuel Company of Pittsburgh, an associate of the Bertha-Consumers Company, have completed a survey for the purpose of erecting a modern tipple at Powhattan, Ohio, where the former company owns approximately 100 acres of surface land, which is directly across the Ohio River from its Frances mine at Franko, W. Va. The arrangement as outlined calls for tunneling under the Ohio River from Powhattan to Franko, which will link the properties together. The Consolidated Fuel Company is now shipping coal from Franko over the B. & O. Railroad, both east and west from the West Virginia side of the river, where the holdings consist of 1,700 acres. The new project will permit shipment of the coal from the Ohio side over the Pennsylvania Railroad into Michigan and other western points under more favorable freight rates, and will give employment to 500 additional men.

NEW EQUIPMENT CATALOGS

The **Deister Concentrator Company**, of Fort Wayne, Ind., has just released a new bulletin, No. 12. This bulletin is devoted to a description of their latest improved Heavy-Duty type Leahy No-Blind vibrating screen. The bulletin recommends the use of this screen for the screening of metals, coal, coke, sand and gravel, screening at meshes as coarse as ¾-inch to as fine as 20 mesh. Copies of the bulletin may be had upon application to their home office, Fort Wayne, Ind.

The **Hercules Powder Company** has just issued a booklet on "Safety in the Use of Explosives," which contains a vast amount of information and which is a real contribution to the subject. Copies may be had upon request to the Wilmington, Del., office.

The **Gilman Manufacturing Company**, East Boston, Mass., have recently released three new bulletins Nos. 100, 101 and 103, covering Gilman hand-held rock drills, Gilman mounter rock drills for use in mines, quarries and by contractors, and Gilman automatic heat treating machines for rock drill bits. These bulletins are fully illustrated and give special information on drilling dry holes, drilling with water under pressure, automatic heat treating machines for rock drill bits and the influence of heat treatment on drill steel. Copies may be obtained upon request from the East Boston office.

The **Warren-Knight Company**, manufacturers of "Sterling" surveying instruments, 136 North 12th St., Philadelphia, Pa., have just issued an interesting folder MC-27 concerning mine transit, with special emphasis on accuracy and the prevention of costly replacement.

The **Osgood Company**, Marion, Ohio, just have issued a new bulletin, No. 250, concerning "Facts and Pictures" of Osgood Revolving and Railroad Shovels. They also announce the publication of two new circulars, No. 251 and No. 253, on Better Roads and Streets, and Osgood Power Shovels.

The **Griscom-Russell Company** announces the publication of a bulletin on "A Jacket Water Cooler that Uses Any Raw Water Supply." The apparatus uses any source of raw water supply to cool the circulating water supply. A small amount of distilled water can therefore be continuously circulated through the jackets and the shell space of the cooler in a closed system, being cooled by the raw water passing through the cooler tubes.

Besides being highly efficient in its cooling action, this apparatus is particularly compact, and constructed so as to permit easy inspection and cleaning. Full information can be obtained by addressing the manufacturers, the Griscom-Russell Company, 90 West Street, New York.

W. A. Jones Foundry & Machine Co. has issued a new General Catalog No. 30. It contains 448 pages of power transmission machinery data, including cut gears, cast gears, spur gear speed reducers, enclosed worm gear drives, cast iron pulleys, friction clutches, sprocket wheels, hangers, pillow blocks, couplings, rope sheaves, etc. Copies gladly sent on request to their home office, 4401 West Roosevelt Road, Chicago, Ill.

A new General Electric reversing starter, bearing the designation CR-7009-M4, has been designed particularly for monorail hoist service and has accordingly been made very small and compact. Its use is also advocated on numerous other applications where economy of space is essential, such as small motor-operated doors.

In operation this starter throws the motor directly on the line. It may be used with either alternating or direct current motors, and consists of four single-pole contactors mechanically interlocked, mounted on a suitable base and enclosed in a small sheet-metal enclosing case for wall mounting. A push-button station is provided for operating the contactors, which are so arranged that the motor will run only so long as the push button remains depressed.

For monorail hoist or other intermittent duty this starter may be used with alternating or direct current motors of ratings up to five horsepower on voltages from 115 to 550.

The overall dimensions of the enclosed device are: Width, 14 inches; height, 9 inches; depth, 6 inches. It is well constructed and so arranged that the cover may be locked shut if desired. Knockouts are provided for ¾-inch conduit.

Mr. H. V. Croll, who for the past six years was manager of the southwestern territory for the Traylor Engineering and Manufacturing Company, with offices at Los Angeles, has been transferred to the home office of the same company at Allentown, Pa.

The Alabama Mining Institute is pushing a campaign for rock dusting in Alabama coal mines, according to an announcement of the Institute. Many large operators have inaugurated this practice or have the work in hand, and practically all the mines in the district using machines for coal cutting have a system for sprinkling the cutter bars and high-pressure water sprays are extensively used in settling coal dust.

GENERAL COAL COMPANY

takes pleasure in announcing its appointment as
Exclusive Western Sales Agent
for the
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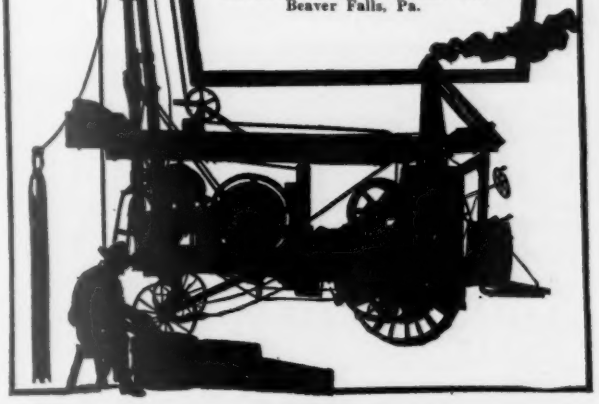

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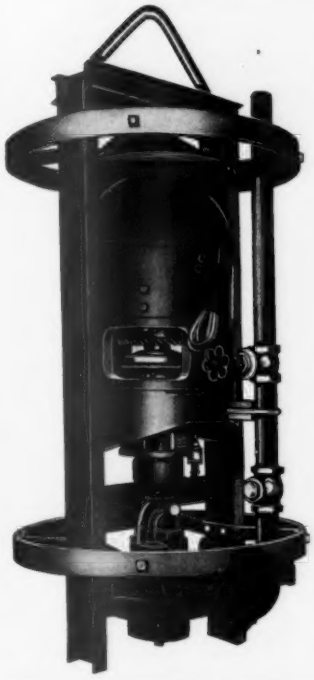

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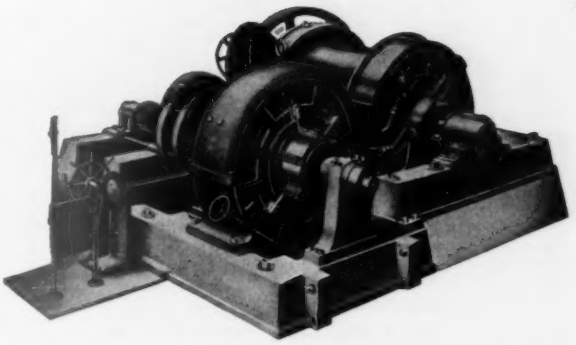

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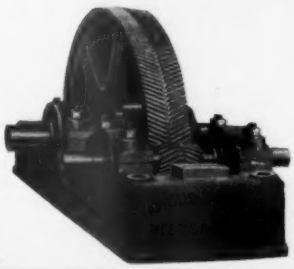

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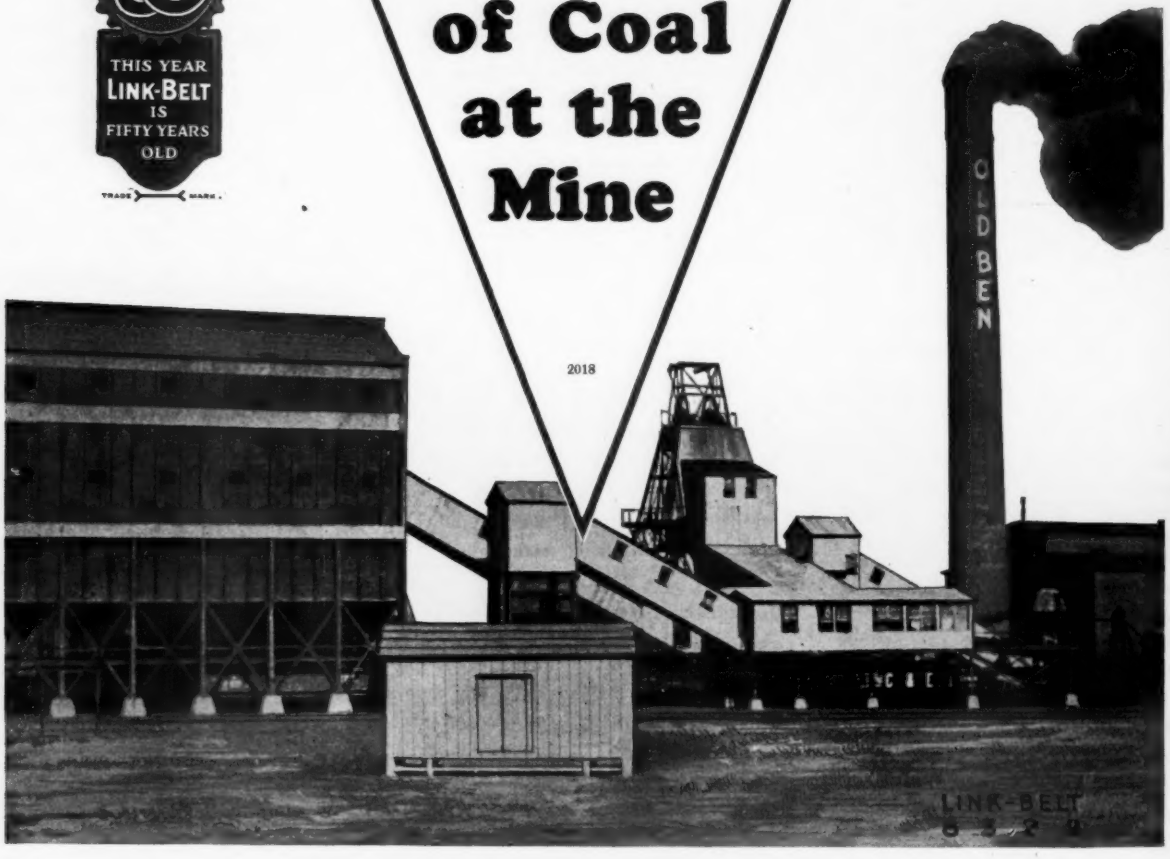

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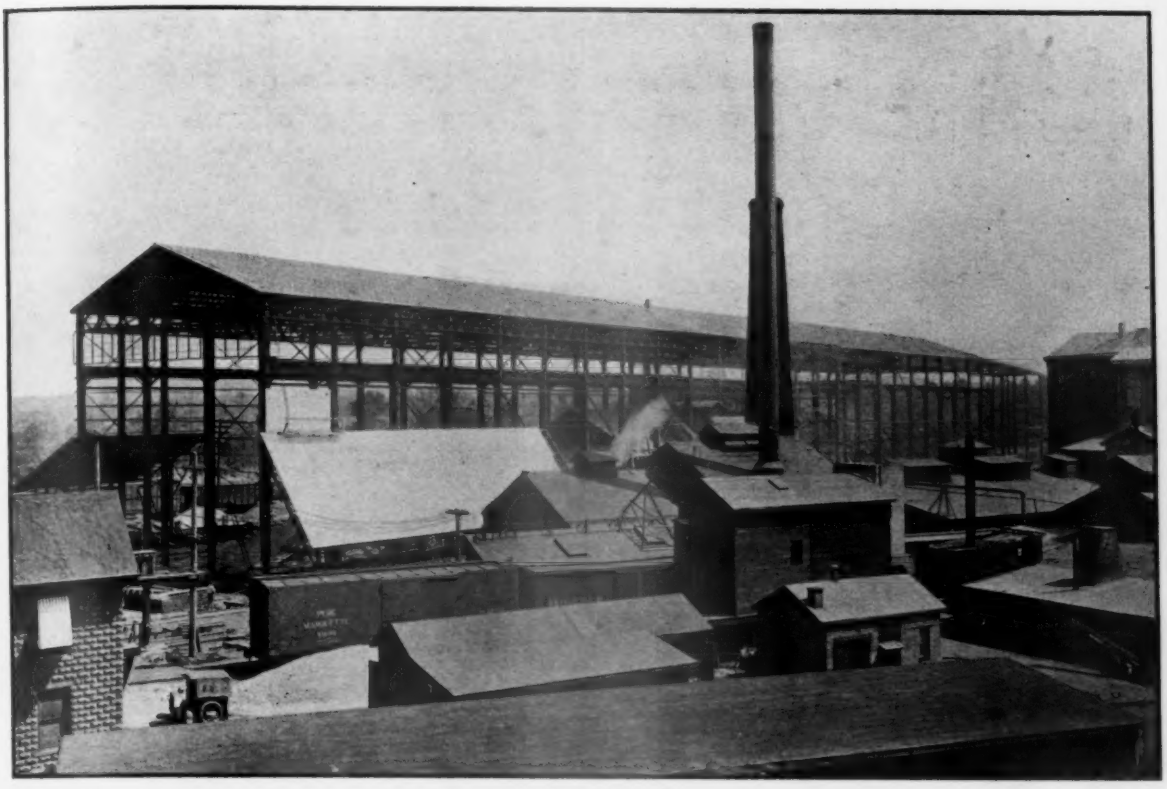

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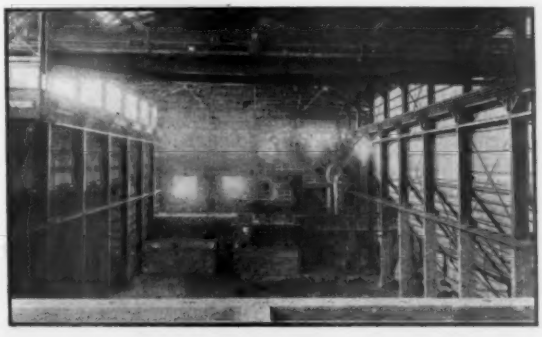

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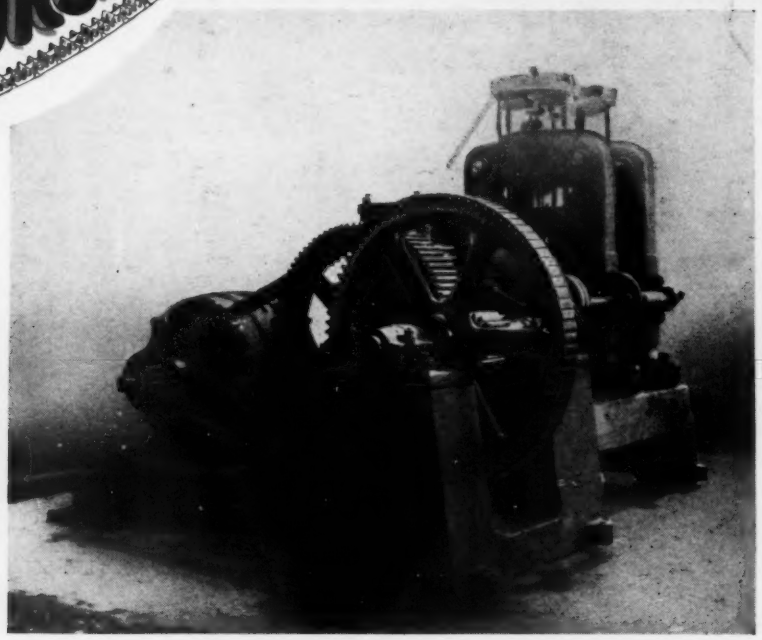

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